Integrated Resource Inventory
Grande Prairie County West
Volume I

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INTEGRATED RESOURCE INVENTORY
OF THE
GRANDE PRAIRIE COUNTY WEST STUDY AREA

Volume I

Ecological Land Classification
and
Evaluations

by

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EXECUTIVE SUMMARY

The Grande Prairie County West study area is located immediately west of the towns of Beaverlodge and Hythe and stretches from Township 69 in the south to Township 75 in the north. It is bounded on the west by the Alberta-British Columbia border and on the east by privately owned land. It includes all or portions of 24 townships; a total area of approximately 930 km^2.

An integrated resource inventory was initiated for the area during the spring of 1985 with the intent of collecting, analysing and evaluating data on the natural resources of the area in support of a Regional Integrated Decision (RID). The intent of the RID is to provide an interim decision for the Grande Prairie County West planning area pending the initiation of the larger Grande Prairie Sub-regional Integrated Resource Plan (IRP).

Summary of Ecological Conditions

The Grande Prairie County West study area occurs within two ecoregions, the Boreal Mixedwood and Boreal Foothills. The area is also included within two distinct physiographic districts the Beaverlodge Plain and the Pinto Plain. Both physiographic districts are underlain by clayey sandstones of the Upper Cretaceous Wapiti Formation.

The Beaverlodge Plain, which accounts for approximately 90% of the total land area is characterized by very gently to moderately undulating and rolling till deposits. Glaciolacustrine materials partially mask the underlying till deposits in the vicinity of Redwillow River. Aspen dominated communities typical of the Boreal Mixedwood Ecoregion occur across much of the Beaverlodge Plain. These communities have developed on moderately well to imperfectly drained Gray Luvisols and, to a lesser extent, soils of the Solonetzic order.

The Pinto Plain is in the extreme southern portion of the study area. Its surface expression is similar to that of the Beaverlodge Plain, however, it is characterized by a variety of parent materials. The vegetation of the Pinto Plain is characteristic of the Boreal Foothills Ecoregion, with lodgepole pine and aspen communities co-existing on moderately well drained Gray Luvisols.

Summary of Evaluations

Most of the soils within the study area have been evaluated as being marginal to non-arable for tilled cropping, the main limitations being drainage, topography and excessively stony conditions. Fair arable soils occur to a limited extent on glaciolacustrine materials south of Redwillow River and in areas north of the Horse Lakes Indian Reserve.

With the exception of herbaceous shrublands and meadows, the entire area has been rated as low for unimproved grazing. The quantity and quality of available forage within both deciduous and mixedwood communities is low for cattle. The area has been rated as having high potential for improved grazing.

Fall/winter habitat has been judged as more favorable for elk than for moose, the reason being that the understory vegetation within both aspen and mixedwood communities provides better forage for elk than for moose during critical periods. Habitat for lynx and coyote has been rated as moderate to low quality over most of the area. With the exception of permanent wetlands, lakes and river courses, the entire study area has been rated as providing low quality habitat for beaver and muskrat.

Forests within the Beaverlodge Plain have been rated as moderate (high) for forest productivity, whereas those of the Pinto Plain have been rated as moderate to low. The lower ratings for the Pinto Plain may be a reflection of lower productivity associated with less favorable climatic conditions for growth in the Boreal Foothills Ecoregion.

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PREFACE

The Grande Prairie County West Integrated Resource Inventory and Evaluation project was initiated in 1985 at the request of the Resource Plannng Branch of Resource Evaluation and Planning Division. The purpose of the study is to collect, analyse and evaluate information pertaining to the natural resources of the study area in support of a Regional Integrated Decision (RID). The intent of the RID is to provide an interim decision for the Grande Prairie County West planning area pending the initiation of the larger Grande Prairie sub-regional Integrated Resource Plan (IRP).

This report provides a discussion of the inventory methods, detailed information on the physical and biophysical characteristics of the landscape, and evaluations of individual landscapes for agriculture (tilled cropping, unimproved grazing and improved grazing), forestry, and wildlife (ungulates, terrestrial furbearers and aquatic furbearers). The text is accompanied by a 1:100 000 Integrated Resource Classification map.

This information is intended for use at a scale of 1:100 000. Interpretation of this data at other scales may constitute misuse.

ACKNOWLEDGMENTS

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1. INTRODUCTION

The Grande Prairie County West study area is located immediately west of the towns of Beaverlodge and Hythe and stretches from Township 69 in the south to Township 75 in the north. It is bounded on the west by the Alberta-British Columbia border and on the east by mostly privately owned land (Fig. 1 and 2). It includes all or portions of 24 townships, a total area of approximately 930 km^2.

The purpose of the study is to classify the landscape on an ecological basis at a scale of 1:100 000 while providing suitability[1] evaluations for agriculture, wildlife and forestry. This information has been requested by the Regional Resource Management Committee of Peace River in support of a Resource Integrated Decision.

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[1] Suitability is defined as the appropriateness of a particular land use for a given landscape. Suitability evaluates both the physical limitations of growth and the physical limitations of use (O'Leary 1986).

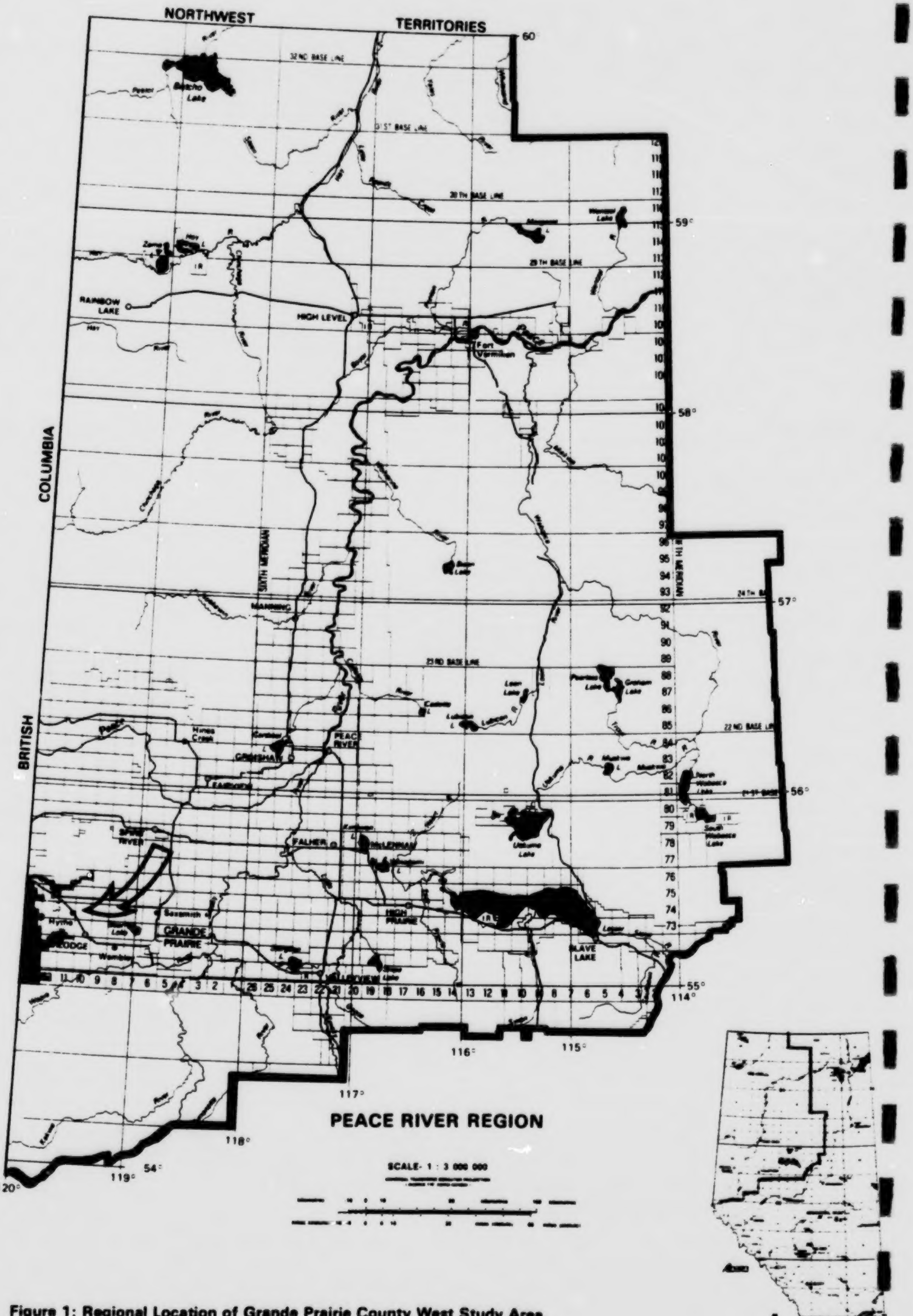

Figure 1: Regional Location of Grande Prairie County West Study Area.

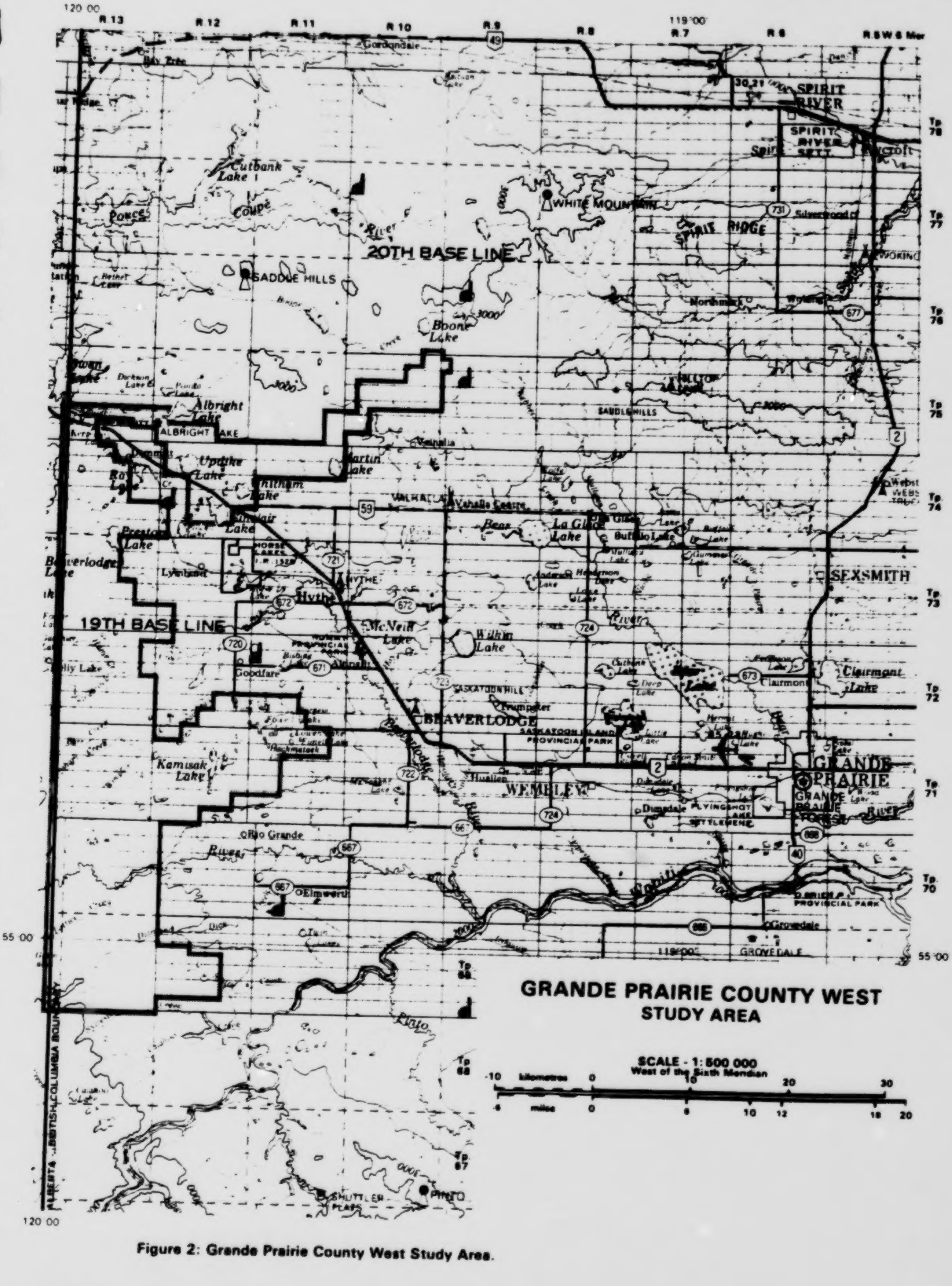

Figure 2: Grande Prairie County West Study Area.

2. METHODS

This section discusses data collection and analysis methods, classification of both terrestrial, aquatic and fluvial ecosections and evaluation methods for tilled cropping, unimproved and improved grazing and wildlife.

2.1 Data Collection and Analysis

A preliminary interpretation of the study area was conducted before the field season using 1:60 000 (1980) black and white panchromatic photos. 1:50 000 color IR (1983) photos were used for the extreme southern portion of the study area. Preliminary lines were transferred to 1:50 000 NTS map sheets to provide a base for field sampling.

The purpose of field sampling was to ground truth the initial interpretation and to collect quantitative information on the soils and vegetation of the study area. Areas to be sampled were originally selected by using aerial photographs in conjunction with the preliminary maps. Actual site locations were chosen using two main criteria the sites had to be located within these areas in places judged to represent the general environmental conditions and vegetation, and recently disturbed places were to be avoided where possible.

At each site, a 10 x 10 m (0.1 ha) plot was established and data on soils, parent materials, vegetation cover, tree mensuration and site conditions were collected as outlined in the Integrated Resource Inventory Site Manual (1984) and in agreement with the Canadian System of Soil Classification (1978). Browse and biomass data were also collected as outlined in the Integrated Resource Inventory Site Manual (1984); browse was collected on a subset of plots, and biomass (forb and graminoids) on all plots. In all, 60 detailed plots were sampled; their locations are shown in Figure 3.

The collected data were subsequently summarized and analysed. Preliminary maps and legends were revised to reflect the new information collected. Descriptions of the mapped landscapes are presented in Section 3. Vegetation mensuration and environmental data are summarized in Volume II (Vegetation Classification) and presented in detail in Appendix 1 of the same volume.

2.2 Integrated Land Classification

Integrated land classification is a method of characterizing and understanding landscapes through the systematic examination and synthesis of various landscape features. Soil, environment and vegetation factors are key landscape components which the integrated resource inventory attempts to describe and correlate. As the landscape classification process is somewhat different for terrestrial and aquatic landscapes, each will be discussed separately.

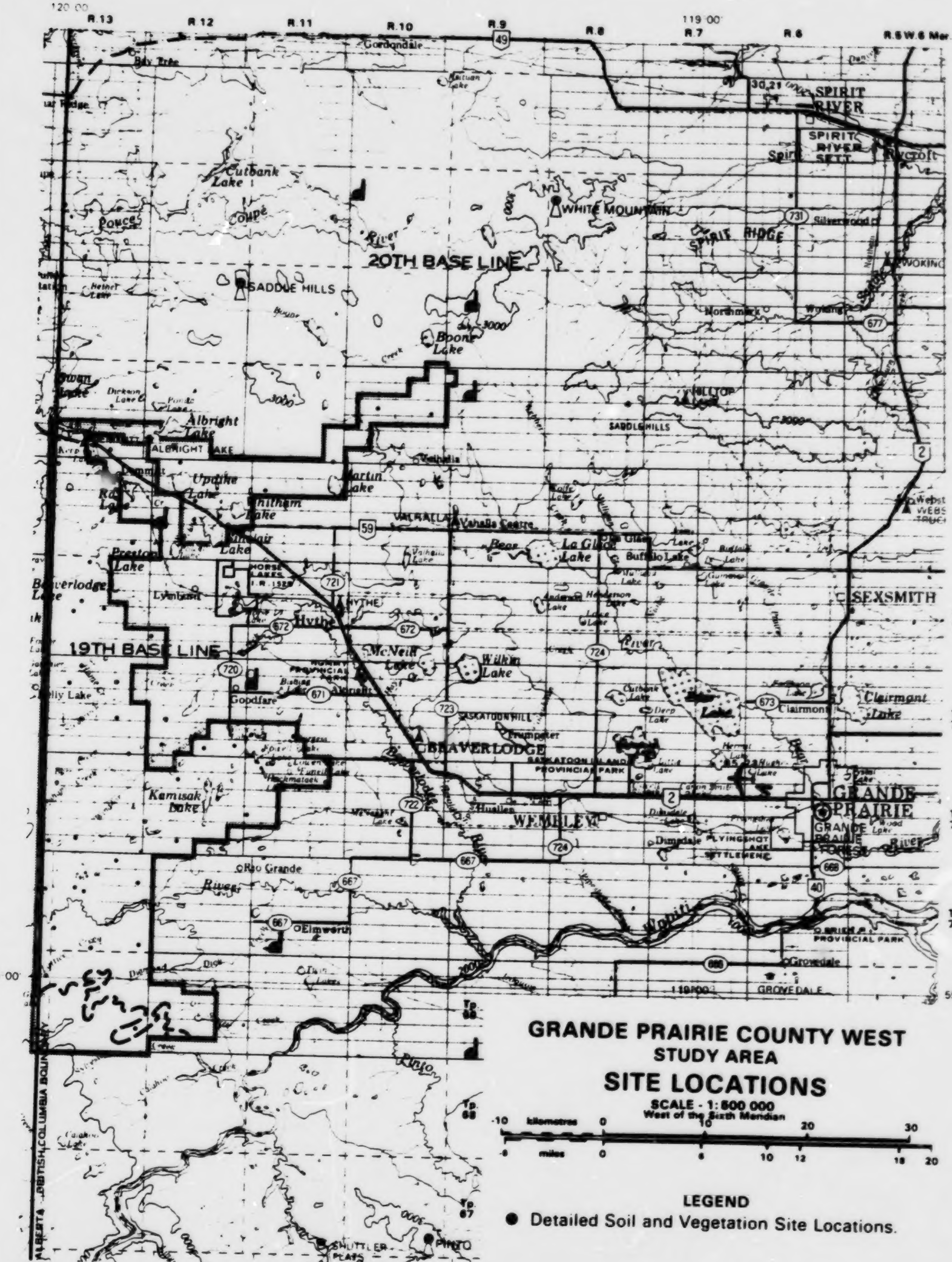

Figure 3: Site Locations in Grande Prairie County West Study Area.

2.2.1 Terrestrial Classification

There are three mapped levels in the Integrated Land Classification of terrestrial landforms:

1. Ecoregion

   This is the broadest category of integrated classification and is defined as an area characterized by a distinct regional climate as expressed by vegetation. It is mapped at a scale of 1:1 000 000 to 1:3 000 000.

2. Physiographic District

   This broad level of integrated classification is defined on the basis of definite patterns of relief, geology, geomorphology and drainage pattern and density. It is mapped at a scale of 1:1 000 000 to 1:250 000.

3. Ecosection

   Ecosection is the basic unit of integrated classification and represents a further subdivision of the physiographic district. It is characterized by recurring patterns of slope, landform, soils and vegetation. Ecosections are mapped at a scale of 1:250 000 to 1:100 000 and are depicted on the Integrated Resource Classification maps.

The mapped information is presented in a closed legend format as follows:

BP.GL2

BP	represents the physiographic district, Beaverlodge Plain
GL	represents the parent material, glaciolacustrine
2	represents a particular ecosection

2.2.2 Fluvial and Aquatic Classification

Fluvial and aquatic ecosections include streams with associated valleys and permanent water bodies. They often transcend physiographic districts with no apparent changes in stream or lake characteristics or morphology. It is for this reason that fluvial and aquatic landforms have been delineated, classified and mapped independently of physiographic districts. Also, it is easier to evaluate these landscapes in terms of suitability ratings if treated as independent features.

Fluvial and aquatic landforms have been delineated and classified to the ecosection level on the basis of valley form, channel morphology, slope, substrate materials and permanency of water body. Information for fluvial and aquatic landforms is also presented in the following closed legend format, e.g.

F1, where:

F	represents the geomorphic system, aquatic: F is used for river and stream courses, W for lakes
1	represents the particular fluvial ecosection

2.2.3 Vegetation Classification

The vegetation inventory program employs three levels of classification to describe vegetation: ecoregion, plant associations and plant communities. The plant community is a site specific indication of environmental conditions and stand history as expressed by vegetation. Plant communities with similar vegetation and occurring under similar environmental conditions are grouped into plant associations. Plant associations occurring on modal sites may subsequently be grouped by characteristic species groups, which reflect climatic influence, to define ecoregions or biogeoclimatic zones. Classification is discussed in detail in Volume II of this report.

Plant associations are not mapped individually; however, the dominant associations occurring within each ecosection are identified in the description of mapped landscapes (Section 3). The linkage between plant associations and ecosections is developed as follows:

(1) Plant associations are defined using both floristic and environmental criteria derived from site data (Volume II).

(2) Ecosections are characterized and delineated using environmental criteria from site data.

(3) Differences in vegetation physiognomy discernable from 1:60 000 scale panchromatic air photos and with generalized environmental conditions within a particular ecosection are

used together to derive the most likely associations and their relative proportions.

In the ecosection descriptions, the references to communities (e.g. the Aspen-Balsam poplar community of ecosection BP.GL1) may be equated to associations with the same or similar names described in Volume II. In the interests of brevity, association names have been reduced in cases where the shorter name adequately indicates the association. For example, as there is only one association co-dominated by a mixture of aspen and balsam poplar, the aspen-balsam poplar communities referred to belong to the Aspen-Balsam poplar/Low-bush cranberry-Rose-Red osier dogwood association.

2.2.4 Landscape Evaluations

Landscape evaluations have been requested for the study area by Alberta Fish and Wildlife Division, Alberta Forest Service and Public Lands Division. Individual ecosections have been evaluated for tilled cropping, unimproved and improved grazing, forest productivity and for several wildlife species, including moose, elk, lynx, coyote, beaver and muskrat.

Evaluation methods are detailed in Appendix 1 (tilled cropping), Appendix 2 (unimproved grazing), Appendix 3 (improved grazing), Appendix 4 (wildlife) and Appendix 5 (forestry). Appendix 6 is an extended legend for the Grande Prairie County West study area. Biophysical attributes and landscape evaluations are presented in this table, as well as per cent occurrence of plant associations and physiognomic classes, where possible, for each ecosection. Per cent values may be very important for determining suitability ratings, particularly where the association serves to indicate relative productivity (e.g. forestry, wildlife and unimproved grazing potential).

3. DESCRIPTION OF MAPPED LANDSCAPES

The Grande Prairie County West project area occurs within two physiographic districts as defined by Pettapiece (1985), the Beaverlodge Plain and the Pinto Plain. Seventeen ecosections have been identified at 1:100 000 for the entire area, 11 within the Beaverlodge Plain and three within the Pinto Plain. Lakes, rivers and streams have been classified apart from the physiographic districts.

The following section provides a general description of each physiographic district and a detailed discussion of the physical and biological components that comprise each ecosection occurring within the physiographic district.

3.1 Beaverlodge Plain

Approximately 90% of the study area is within the Beaverlodge Plain (BP) physiographic district (Fig. 4). This very gently to moderately undulating and rolling till plain is underlain by clayey sandstones of the Upper Cretaceous Wapiti Formation. It is dissected by numerous small organic-filled meltwater channels that occur mainly in a southwest-northeast direction. Numerous lakes occur throughout the area, especially in the northern half.

Moderately fine to fine textured till deposits are the primary surficial materials. Fine textured glaciolacustrine deposits mask the

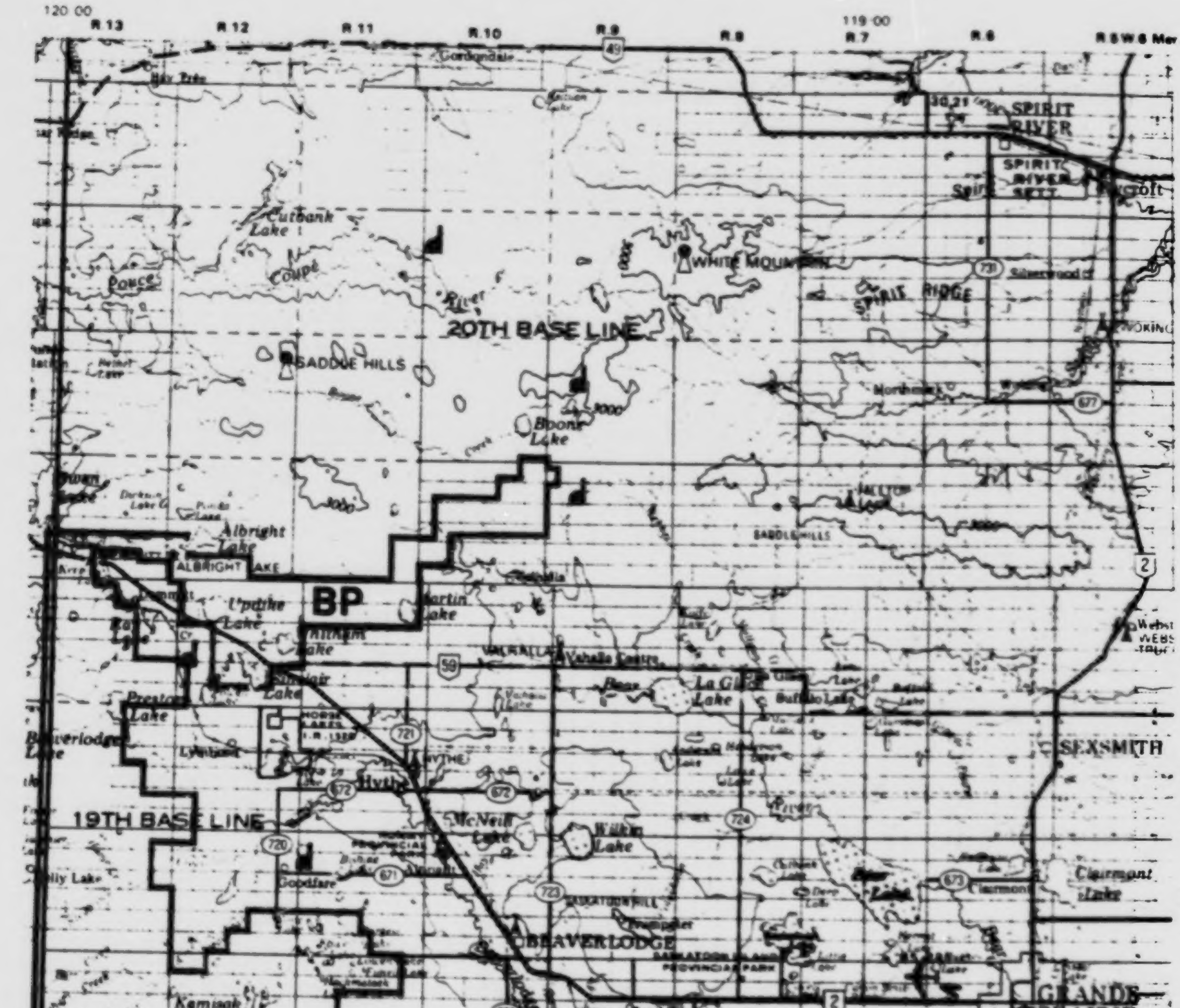

Figure 4: Physiographic Districts of Grande Prairie County West Study Area.

underlying till deposits in the vicinity of Redwillow River. Till deposits are calcareous and slightly to moderately stony, while glaciolacustrine materials appear to have been reworked by glacial ice, thus producing non to slightly stony lacustro-till deposits. Moderately well drained Orthic and Solonetzic Gray Luvisols are the dominant soils throughout the Beaverlodge Plain, although poorly drained Gleysols and Mesisols occur in meltwater channels and depressional topography.

Aspen dominated forests with understories of rose, low-bush cranberry and buffalo-berry occur over much of the Beaverlodge Plain, and are typical of the Boreal Mixedwood Ecoregion (Strong and Leggat 1981). A recent and more detailed classification scheme employing a larger vegetation and soils data set (Archibald 1986 in preparation) places that portion of the Beaverlodge Plain sub-region occurring within the study area in the Lower Subzone of the Boreal Mixedwood Biogeoclimatic Zone. White spruce and white spruce-aspen communities occur to a limited extent and reflect the frequent occurrence of fires in the area. Wetland areas support a mixture of black spruce. sedge or willow-dwarf birch communities, with black spruce being prevalent in the northern half and the latter two communities being more common in the south.

Ecosection BP.GL1

Landform. This very gently undulating and inclined (2-5%) glaciolacustrine plain is adjacent to Redwillow River and Lattice Creek. Surficial materials are characterized by approximately 15 cm of loamy materials overlying compact, slightly acidic dark gray clays. Materials are slightly stony and have carbonates within 70 cm of the mineral surface. Effective rooting depth is approximately 50 cm.

Ecological Conditions. Approximately 65% of the landscape is vegetated by Aspen-Balsam poplar communities. The remaining portion is vegetated by equal proportions of Aspen/Low-bush cranberry-Rose, White spruce and Black spruce fen communities. With the exception of black spruce fens, these communities have developed on moderately well to poorly drained Orthic Gray Luvisols and Orthic Luvic Gleysols. LFH horizons vary from 6-10 cm in thickness. Black spruce fens have developed in depressional terrain along with very poorly drained Terric Mesisols.

Seepage from adjacent uplands (BP.GLM1, PP.M1) is reflected in lush understories and the predominance of Gleyed Gray Luvisols. Aspen/alder communities may occur within this ecosection adjacent to the British Columbia border.

LANDSCAPE EVALUATIONS

Tilled Cropping	Unimproved Grazing	Improved Grazing	Fall/Winter Moose	Elk	Lynx	Coyote	Beaver	Muskrat	Forestry
Arable	L	H	M	M	M	M	L	L	M

Ecosection BP.GL2

Landform. This nearly level to depressional glacial meltwater channel (slope 0-2%) and spillway is now occupied by Diamond Dick Creek. Fine textured glaciolacustrine materials are the principal surficial materials with significant organic accumulations occurring in depressional terrain. Coarse textured glaciolfuvial materials are uncommon, and might have been removed by flowing meltwaters and/or wind.

Ecological Conditions. Willow shrublands and Dwarf birch/Sedge communities occur over nearly 65% of this ecosection and have developed on poorly drained Orthic Luvic and Humic Gleysols. Black spruce fens occur to a very limited extent and have developed on very poorly drained Terric Mesisols. Imperfectly drained Gleyed Gray Luvisols have developed on slightly higher ground and support mainly Aspen-Balsam poplar communities, which are scattered throughout the ecosection. Much of the area has been burned within the past century.

LANDSCAPE EVALUATIONS

Tilled Cropping	Unimproved Grazing	Improved Grazing	Fall/Winter		Lynx	Coyote	Beaver	Muskrat	Forestry
			Moose	Elk					
Non-Arable	L	M	M(H)	M(H)	H	M	M	M	L

Ecosection BP.GLM1

Landform. This very gently undulating (2-5% slope) till plain is adjacent to the Redwillow River and is overlain by reworked glaciolacustrine materials which are slightly stony. Fourteen to 20 cm of loam textured materials usually overlie non-compact, slightly acidic dark greyish brown clays. Stone content varies between 10 and 15% with cobbles and gravels being evenly distributed throughout the upper 1 m.

Carbonates generally occur within 60 cm of the mineral surface while effective rooting depth is approximately 50 cm.

Ecological Conditions. Nearly 55% of this landscape is covered with Aspen/Low-bush cranberry-Rose communities while 30% is covered with Aspen/Alder communities, the latter usually occurring where bedrock is very near the surface. These plant communities have developed on moderately well to imperfectly drained Orthic, Solonetzic and Gleyed Gray Luvisols. The thickness of the LFH horizon ranges from about seven to nine cm. Approximately 15% of the area has been cleared for agriculture.

LANDSCAPE EVALUATIONS

Tilled Cropping	Unimproved Grazing	Improved Grazing	Fall/Winter Moose	Fall/Winter Elk	Lynx	Coyote	Beaver	Muskrat	Forestry
Marginal	L	H	M(L)	M	M	M(H)	L	L	M(H)

Ecosection BP.M1

Landform. Occurring in the northern portion of the study area, this very gently undulating to inclined moraine plain (slope 2-5%) generally has 15 to 20 cm of loamy materials overlying non- compact, moderately to slightly acidic dark grayish brown clays. These tills characteristically have five to 10 per cent gravel-sized stones by volume. Carbonates are generally found within 80 cm of the mineral surface while effective rooting depth is to approximately 40 cm.

Many lakes including Updike, Sinclair, Whitham and Martin Lakes occur throughout this landscape are are discussed under Ecosection W1. Organic deposits are also significant, particularly in the centre portion of the ecosection.

Ecological Conditions. Moderately well to imperfectly drained Orthic and Gleyed Gray Luvisols are the principal soils occurring throughout this landscape. Soils usually have a well developed LFH horizon approximately 10 cm thick. These soils support mainly Aspen/Low-bush cranberry-Rose communities (50% of vegetation and to a lesser extent, White spruce-Aspen (30%) and Balsam poplar/Red-osier dogwood (15%) communities. The Balsam poplar communities are generally associated with ridge top positions, particularly between Updike and Sinclair Lakes. Approximately five per cent of the ecosection has been cleared for agriculture.

LANDSCAPE EVALUATIONS

Tilled Cropping	Unimproved Grazing	Improved Grazing	Fall/Winter		Lynx	Coyote	Beaver	Muskrat	Forestry
			Moose	Elk					
Arable	L	H	M	M	M	M	L	L	M(H)

Ecosection BP.M2

Landform. This very gently to gently undulating and inclined moraine plain (slope 2-9%) is in the extreme northeastern corner of the study area. Twelve to 14 cm of loamy materials overlie moderately to slightly acidic, dark grey to dark greyish brown compact clays.

Carbonates are generally found within 60 cm of the mineral surface while effective rooting depth is about 55 cm. Stone content ranges from seven to 15%, and gravels or to a slightly lesser extent, cobbles are the main size fractions present.

Ecological Conditions. Approximately 50% of this landscape is vegetated by Aspen/Low-bush cranberry-Rose communities. White spruce and White spruce-Aspen communities occur in slight depressional areas and account for about 20% of the landscape. These communities have developed on moderately well drained Orthic and Solonetzic Gray Luvisols with LFH horizons of approximately 7 to 8 cm thickness. About 30% of this ecosection has been cleared for agriculture.

LANDSCAPE EVALUATIONS

Tilled Cropping	Unimproved Grazing	Improved Grazing	Fall/Winter		Lynx	Coyote	Beaver	Muskrat	Forestry
			Moose	Elk					
Arable	L	H	M(L)	M	M	H	L	L	M(H)

Ecosection BP.M3

Landform. This rugged, faintly fluted upland area is between Steeprock and Albright Creeks and is characterized by a well developed drainage network with several large organic-filled meltwater channels. Morainal veneers and blankets are characterized by having 25 to 35 cm of loam and loamy sand overlying moderate to slightly acidic, derk gray to dark greyish brown compact clays. Residual sandstones occur very near the surface in crest positions. Carbonates are generally found within 70 cm of the mineral surface while effective rooting depth is approximately 40 cm. Stones within the till are gravel-sized and stone content ranges from 3 to 7 per cent. Surface expression varies from very gently to gently sloping and undulating (slope 2-9%).

Ecological Conditions. Upland areas which account for approximately 40% of the landscape are vegetated by Aspen/Alder communities, while Aspen/Low-bush cranberry-Rose communities occur on side slopes and account for approximately 50% of the landscape. Small, isolated White Spruce-Aspen communities, which account for the remaining portion of the vegetation, are confined mainly to the southern portion of the ecosection. The plant communities have developed on mainly moderately well drained Orthic Gray Luvisols with well developed LFH horizons of approximately 10 cm. Imperfectly drained Gleyed Gray Luvisols occur to a limited extent.

Ecosection BP.M4

Landform. These strongly fluted lowland areas are characterized by a nearly level to very gently undulating surface expression (0.5-2% slope) with vertical relief being in the order of one metre. Flutes are oriented in a southwest-northeast direction.

Morainal materials typically have 25 cm of loam to very fine sand overlying dark grey to dark greyish brown compact clays. Carbonates are generally found within 70 cm of the mineral surface, while effective rooting depth is to approximately 25 cm. Stone content varies from 7 to 15% with gravels being dominant Surficial materials are slightly acid to moderately alkaline.

Ecological Conditions. Approximately 65% of this ecosection is vegetated by Aspen/Low-bush cranberry-Rose communities, while the remaining portion is vegetated by White spruce-Aspen (20%), Black spruce (5%) and Dwarf birch/Sedge (5%) communities. Approximately 5% of the landscape has been cleared for agriculture. Dedicuous and mixedwood communities have developed on moderately well to imperfectly drained Orthic, Brunisolic and Gleyed Gray Luvisols while wetland vegetation has developed on poorly drained Orthic Luvic and Humic Gleysols. LFH horizons are well developed and vary from 10 to 12 cm in thickness.

LANDSCAPE EVALUATIONS

Tilled Cropping	Unimproved Grazing	Improved Grazing	Fall/Winter		Lynx	Coyote	Beaver	Muskrat	Forestry
			Moose	Elk					
Marginal	L	H	M(L)	M	M(L)	M	L	L	H

Ecosection BP.M5

Landform. This strongly fluted and dissected landscape lies between Redwillow River and Steeprock Creek and is characterized by a very gently to gently undulating and rolling surface expression (2-5% slope). Numerous relict meltwater channels are oriented in a southwest-northest direction, similar to that of the fluting pattern. Most of these meltwater channels have been delineated as separate features of the landscape (BP.01).

Morainal materials usually have 20 to 25 cm of light brownish grey loamy materials overlying slightly acidic, dark grey to dark greyish brown, slightly compact clays. Carbonates are generally found within 70 cm of the mineral surface, while effective rooting depth is approximately 60 cm. Stone content is highly variable, ranging from 7 to 30% with cobbles and gravels being evenly distributed throughout the matrix.

Ecological Conditions. Approximately 90% of this landscape is vegetated by Aspen/Low-bush cranberry-Rose and to a much lesser extent, Aspen/Buffalo-berry communities. The remaining portion has been cleared for agriculture. These plant communities have developed on moderately well drained Orthic Gray Luvisols with poorly developed LFH horizons of 4 to 6 cm thickness. Meltwater channels, which are too small to delineate as separate ecosections but which appear similar to those described for Ecosection BP.01 have infilled with sedge and sphagnum peats and support Black spruce communities.

Ecosection BP.M6

Landform. This non-fluted, bedrock controlled ridge is oriented in a southwest-northeast direction. It is found immediately north of Redwillow River and might be a small syncline. The pattern of glaciation trends north-south as opposed to the southwest-northeast trend in previously discussed ecosections. Surface expression varies from nearly level to very gently undulating on top of the ridge (0.5-5% slope to gently to moderately inclined on the sides (6-15% slope). Small glacial meltwater channels too small to delineate at 1:100 000 account for approximately 5% of this landscape. Surficial materials include morainal veneers and blankets overlying residual sandstones and glaciofluvial veneers overlying till deposits.

Till material generally have 15 to 25 cm of loam and sandy loams overlying slightly compact clays. Carbonates are usually found within 60 cm of the mineral surface, while effective rooting depth is approximately 40 cm. Stone content varies from 5 to 25% with gravels and cobbles being evenly distributed throughout the matrix.

Where glaciofluvial materials overlie till deposits, 25 cm to 65 cm of sandy loam and sand are found overlying clays. Stone content ranges widely with the upper portions of the profile having anywhere from 15 to 75% stone content; gravels are dominant.

Ecological Conditions. About 80% of this landscape is forested with aspen communities, of which the Aspen/Low-bush cranberry-Rose and Aspen/Buffalo-berry types are the most dominant (65%). These communities are generally confined to either side slopes or areas in which till materials are thick enough to mask the underlying sandstones. Aspen/Alder communities, which accounts for approximately 20% of forested land within the ecosection, occurs on the ridge top where residual sandstones or glaciofluvial materials are present or close to the surface. Small, remnant White spruce stands account for less than 5% of the vegetation, while another 5% of the landscape is vegetated by black spruce fens which occupy remnant meltwater channels. The remaining 5% of the landscape is cleared land.

With the exception of Black spruce, these communities have developed on moderately well to imperfectly drained Orthic, Brunisolic and Gleyed Gray Luvisols. Brunisolic Gray Luvisols are typical of areas where either residual sandstones are near the surface or where glaciofluvial veneers overlie till deposits. LFH horizons vary from 6 to 10 cm in thickness.

LANDSCAPE EVALUATIONS

Tilled Cropping	Unimproved Grazing	Improved Grazing	Fall/Winter Moose	Elk	Lynx	Coyote	Beaver	Muskrat	Forestry
Non-Arable	L	M	M	M	M	M	L	L	M(H)

Ecosection BP.01

Landform. Occupying remnant meltwater channels, these horizontal fens occur extensively throughout the study area. In the northern third of the study area, many of these meltwater channels are quite broad and extensive and hence occupy a significant portion of the landscape. They are generally found occupying depressional terrain adjacent to lakes (Updike, Sinclair, Whitham, Martin, Preston and Chain Lakes). In the southern two-thirds of the area, most of these fens are confined to narrow meltwater channels (Barr, Graham, Windsor and Beavertail Creeks, Hackmatack, Fowel and Funnel Lakes), and hence take on a more sloping fen appearance. These also tend to be more mineral rich than those of the northern third.

Organic materials are composed of decomposed sedges and sphagnum mosses, the former more commonly associated with narrowly confined meltwater channels. They are characterized by having a mesic upper and middle tier in excess of 100 cm. They are generally underlain by moderately fine to fine textured till materials.

Ecological Conditions. Black spruce-dominated communities occur over 80% of these wetlands, the remaining portion being Willow shrublands. The broad meltwater channels occurring in the northern third are dominantly vegetated with Black spruce/Labrador tea/moss communities, while the narrower, more sloping meltwater channels in the southern two-thirds of the area appear to support a mixture of both.

These plant communities have developed on very poorly drained Terric and Typic Mesisols. Peaty phase Gleysols may be common around the perimeter of these wetlands where willow shrubland communities occur.

LANDSCAPE EVALUATIONS

Tilled Cropping	Unimproved Grazing	Improved Grazing	Fall/Winter		Lynx	Coyote	Beaver	Muskrat	Forestry
			Moose	Elk					
Non-Arable	L	L	M(L)	L	M(H)	L	H	H	L

Ecosection BP.OM1

Landform. Occurring adjacent to Kamisak Lake (Ecosection W1), this complexed landscape consists of faintly fluted upland topography with approximately 80% wetland topography. Organic material is composed mainly of sphagnum peats and, to a much lesser extent, sedge peats. Till materials which underlie these organic accumulations may have loamy upper layers overlying slightly compact clays. Glaciofluvial sands may overlie these till deposits, as much of this area shows signs of glacial meltwater activity.

Ecological Conditions. Very poorly drained Terric and Typic Mesisols occur in depressional terrain and support predominantly Black spruce communities. Willow shrublands commonly occur around the perimeter of these stands, but account for less than 10% of the total vegetation. Aspen/Low-bush cranberry-Rose communities occur on upland sites where Orthic Gray Luvisols have developed. Most of these aspen communities are young, indicating that fires occurred fairly recently.

LANDSCAPE EVALUATIONS

Tilled Cropping	Unimproved Grazing	Improved Grazing	Fall/Winter		Lynx	Coyote	Beaver	Muskrat	Forestry
			Moose	Elk					
Non-Arable	L	L	L	M(L)	M	L	M	L	L

3.2 Pinto Plain

The Pinto Plain (PP) physiographic district is in the extreme southern portion of the Grande Prairie County West study area and accounts for approximately 10% of the entire area (Fig. 4). This very gently to moderately undulating and rolling till plain is underlain by clayey sandstones of the Upper Cretaceous Wapiti Formation.

Within the study area, till and glaciofluvial materials are the dominant surficial materials. Fine textured glaciolacustrine materials commonly overlie till deposits on lower slope positions. Soils development is strongly tied to topographic position, with moderately well to well drained Orthic and Brunisolic Gray Luvisols developing on upland tills and imperfect to poorly drained Gleyed Luvisols and Gleysols developing in depressional topography where glaciofluvial and organic materials mask the underlying till deposits.

Mixedwood dominated communities occur over much of this landscape with Aspen and Lodgepole pine being the dominant overstory species. The occurrence of lodgepole pine communities on moderately well drained soils suggests that these upland areas occur within the ecoregion (Strong and Leggat 1981). Black spruce also occurs, but is confined to depressional terrain where glaciofluvial materials are overlain by organic veneers and blankets.

Ecosection PP.GF1

Landform. These subdued glacial meltwater channels and outwash areas occur in the extreme southwestern corner of the study area. Surface expression varies from nearly level and depressional (0-2% slope) to very gently undulating and gently inclined (2-9% slope).

Glaciofluvial materials are characterized by sandy loams and sands overlying finer-textured glaciolacustrine materials at depth. These glaciolacustrine materials act as an impermeable layer thus creating saturated conditions which have lead to the accumulation of organic materials on the surface. These organic accumulations of sphagnum peats are generally less than 100 cm in thickness and account for approximately 60% of all surficial materials.

Ecological Conditions. Variation in the depth of glaciofluvial materials creates moisture gradients which control the vegetation pattern. Black spruce communities have developed on peaty Gleysols and Mesisols. These wetland communities have developed in poorly to very poorly drained depressional topography and account for approximately 60% of all vegetation. Equal proportions of Lodgepole pine/Feathermoss and Lodgepole pine-Black spruce/Labrador tea/Feathermoss communities occur over the remaining portion of the landscape. The Lodgepole pine/Feathermoss communities have developed on thick, well to rapidly drained glaciofluvial deposits where Brunisolic Gray Luvisols and Eluviated Eutric Brunisols are found. Lodgepole pine-Black spruce communities occur primarily on lower slope positions adjacent to black spruce dominated wetlands. These communities have developed on thin glaciofluvial deposits, and both species composition and soil type are indicative of abundant soil moisture. Gleyed Brunisolic Gray Luvisols are typical.

LANDSCAPE EVALUATIONS

Tilled Cropping	Unimproved Grazing	Improved Grazing	Fall/Winter		Lynx	Coyote	Beaver	Muskrat	Forestry
			Moose	Elk					
Non-Arable	L	L	M(L)	M(L)	M(L)	M(L)	L	M	L

Ecosection PP.M1

Landform. This landscape consists of a series of subdued northeast-southwest trending bedrock ridges covered with moderately fine-textured pitted moraine. These ridges are separated by a number of small streams, including Diamond Dick Creek. Glaciofluvial veneers may be common on lower slope positions adjacent to ecosection PP.GF1. Surface expression varies from nearly level on crest positions to moderately inclined (2-15%) side slopes.

Ecological Conditions. Approximately 60% of this landscape is forested by Lodgepole pine/Low-bush cranberry communities, while the remaining portion is vegetated by Aspen/Low-bush cranberry communities. Both are typical of the Boreal Foothills Ecoregion. These communities have developed on moderately well to imperfectly drained Orthic and Brunisolic Gray Luvisols.

LANDSCAPE EVALUATIONS

Tilled Cropping	Unimproved Grazing	Improved Grazing	Fall/Winter		Lynx	Coyote	Beaver	Muskrat	Forestry
			Moose	Elk					
Marginal	L	H	M(L)	M	M	M	L	L	M

Ecosection PP.01

Landform. This sloping and patterned fen is composed of sedge and sphagnum peats in excess of 100 cm in thickness. These organics are characterized by having mesic upper and middle tiers.

Ecological Conditions. These wetlands are composed mainly of Dwarf birch/Sedge communities (60%) and Black spruce/fens (40%). The sedge dominated communities have developed on Typic and Terric Mesisols, while black spruce communities have developed on peaty Gleysols and Mesisols. Many of the Black spruce stands show evidence of recent fire.

LANDSCAPE EVALUATIONS

Tilled Cropping	Unimproved Grazing	Improved Grazing	Fall/Winter		Lynx	Coyote	Beaver	Muskrat	Forestry
			Moose	Elk					
Non-Arable	L	L	M	M	L	L	L	H	L

3.3 Fluvial and Aquatic Ecosections

Fluvial Ecosection F1

Landform. This ecosection includes that portion of the Redwillow River occurring within the Grande Prairie County West study area. This confined, fast-flowing (probably well-oxygenated) meandering stream stretches for approximately 20.4 km within the study area and has a mean gradient of 0.5%. Average sinuosity ratio is 1.58. The stream itself is composed mainly of runs and riffles, with pools accounting for less than 5% of the entire reach. Abrupt banks greater than 3 m are most common, with beachlike banks being more typical of lower reaches. Cobbles, and to a lesser extent, bedrock are the main channel materials over which the stream passes. Slumping valley walls are typical of upper reaches while terraces and floodplains are more common in lower reaches.

Ecological Conditions. Aspen communities with variable understories occur over nearly 60% of this valley, including both valley walls and terraces. Understory vegetation strongly reflects slope, aspect and soil moisture conditions. White spruce dominated communities account for approximately 30% of vegetation, being found most commonly on north facing, often slumped valley walls. Early successional vegetation (mixture of grasses and shrubs) is typical of areas that have recently slumped or have recently received fluvial materials. Cleared agricultural fields account for the remaining portion of the landscape. These fields occur in the lower portion of the reach on slightly raised terraces bordering the creek. No Balsam poplar communities were noted in flights over of the river channel.

Soil development strongly reflects on-going processes within the valley. Well drained Cumulic Regosols are typical of floodplain areas and low-lying fluvial terraces where periodic deposition of materials occurs. Soils on valley walls vary from being well to rapidly drained on south facing, recently colluviated slopes, to imperfectly and poorly drained on north facing walls where seepage is common. Well drained Eutric Brunisols are typical of glaciofluvial terraces.[1]

LANDSCAPE EVALUATIONS

Tilled Cropping	Unimproved Grazing	Improved Grazing	Fall/Winter Moose	Elk	Lynx	Coyote	Beaver	Muskrat	Forestry
Non-Arable		L	M	M(H)	H	M(H)	M	M	M

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[1] For a more detailed discussion of the Redwillow River, refer to "Reach Analysis of that Portion of the Redwillow River Occurring within the Grande Prairie County West Integrated Resource Inventory Project Area," by D. O'Leary and D. Downing, 1985, Resource Evaluation Branch, Alberta Energy and Natural Resources.)

Fluvial Ecosection F2

Landform. Both Albright and Steeprock Creeks are included within this ecosection. Both these meandering streams are characterized by a low gradient (<0.2%) channel, in which organic accumulations have developed and account for nearly 10% of all materials. Unlike Redwillow River, these streams have neither high vertical walls nor slumped topography. The dominant channel materials are mainly sands, silts and clays. Compared to Redwillow River, these water courses are of low energy and rather sluggish (and thus are probably poorly oxygenated).

Ecological Conditions. Open deciduous communities have developed along the floodplains of both these stream courses. Aspen communities with variable understories occur over approximately 50% of the floodplains, while willow shrubland communities occur on about 40%. The remaining portion is vegetated by Black spruce dominated communities which have developed on poorly to very poorly drained peaty Gleysols and Mesisols. Both the aspen and willow communities have developed on well to imperfectly drained Cumulic Regosols, with understory vegetation reflecting soil moisture.

LANDSCAPE EVALUATIONS

Tilled Cropping	Unimproved Grazing	Improved Grazing	Fall/Winter		Lynx	Coyote	Beaver	Muskrat	Forestry
			Moose	Elk					
Non-Arable		L	M	M(H)	H	M(H)	H	H	M(L)

Fluvial Ecosection W1

Aquatic Form. This ecosection includes Updike, Sinclair, Whitham, Martin, Albright, Preston and Kamisak Lakes. These permanent water bodies typically have sedges and cattails along the shorelines. All lakes are greater than 1 km^2 in size and greater than 5 m in depth. Annual water fluctuations are in the order of 50 cm per year.

LANDSCAPE EVALUATIONS

Tilled Cropping	Unimproved Grazing	Improved Grazing	Fall/Winter		Lynx	Coyote	Beaver	Muskrat	Forestry
			Moose	Elk					
Non-Arable	L	NC	NC	NC	NC	NC	H	H	NC

4. RESOURCE EVALUATIONS

The following resource evaluations were requested by regional Public Lands, Alberta Fish and Wildlife and Alberta Forest Service staff to address land use allocation decisions for the Grande Prairie County West study area.

- 4.1 Agriculture
    - 4.1.1 Tilled cropping
    - 4.1.2 Unimproved grazing
    - 4.1.3 Improved grazing
- 4.2 Wildlife
    - 4.2.1 Ungulates
        - moose
        - elk
    - 4.2.2 Terrestrial Furbearers
        - lynx
        - coyote
    - 4.1.2 Aquatic Furbearers
        - beaver
        - muskrat
- 4.3 Forestry
    - productivity

Explicit procedures have been developed in-house and approved by regional offices to evaluate these resources in a consistent fashion. Detailed methods are outlined in Appendices 1, 2, 3, 4 and 5. Appendix 6 is an extended legend for each ecosection. Per cent occurrence of individual plant associations within each landscape are given. This table may be used to help in arriving at individual ecosections.

4.1 Agriculture

Table 1 provides a summary of agricultural evaluations for individual landscapes within the Grande Prairie County West study area.

4.1.1 Tilled Cropping

Approximately half the soils in the study area are rated as marginal to fair arable for tilled cropping based on the Storie Index, the main limitations being climate, drainage and topography. Areas rated as having fair arable soils are characterized by very gently undulating topography and have surficial materials where 12 to 20 cm of loam overlie slightly compact clays. These tills (BP.M1, BP.M2) and glaciolacustrine materials (BP.GL1) are non to slightly stony and effective rooting depth is typically at least 40 cm. Areas rated as having marginal soils for tilled cropping have less favorable topography and are characterized by stony soil horizons.

Soils in organic and mineral wetlands and river valleys have been rated as non-arable for tilled cropping. The upland topography (BP.M6) occurring between Beavertail Creek and the Redwillow River has also been rated as non-arable due to the presence of coarse-textured, and often gravelly glaciofluvial materials overlying till deposits. These till deposits may also be exceedingly to excessively stony.

Table 1

AGRICULTURAL RATINGS

Ecosection	Tilled Cropping	Unimproved Grazing	Improved Grazing
Beaverlodge Plain			
BP.GL1	Fair arable	L	H
BP.GL2	Non-arable	L	M
BP.GLM1	Marginal arable	L	H
BP.M1	Fair arable	L	H
BP.M2	Fair arable	L	H
BP.M3	Marginal arable	L	H
BP.M4	Marginal arable	L	H
BP.M5	Marginal arable	L	H
BP.M6	Non-arable	L	M
BP.O1	Non-arable	L	L
BP.OM1	Non-arable	L	L
Pinto Plain			
PP.GF1	Non-arable	L	L
PP.M1	Marginal arable	L	H
PP.O1	Non-arable	L	L
Aquatics			
F1	Non-arable	L	L
F2	Non-arable	L	L
W1	Non-arable	L	NC

4.1.2 Unimproved Grazing

The entire study area has been rated as having a low potential for unimproved grazing based on the quantity and quality of forage available for cattle.

All plant associations that were described and classified for the study area are rated as low for forage production. The only associations that have reasonable potential for unimproved grazing are the Balsam poplar/Red-osier dogwood. Willow shrubland and dwarf birch/sedge associations. The latter two have, on average, moderate amounts (600-1 500 kg/ha) of low quality forage, while the balsam poplar association has, on average, low quantities (0-600 kg/ha) of moderate quality forage. Communities belonging to these three associations are not areally extensive within the study area.

4.1.3 Improved Grazing

With the exception of ecosections BP.M6, BP.GL2, BP.O1, and BP.OM1, the entire Beaverlodge Plain is rated as having high potential for improved grazing. Improved grazing potential in BP.GL2 and BP.O1 (mineral and organic wetlands respectively) is limited by drainage and unfavorable topography. Excessively stony conditions, soil texture and unfavorable topography are limiting in BP.M6. Drainage, stoniness and soil texture are limiting in BP.OM1.

Improved grazing potential within the Pinto Plain is rated high for upland topography (PP.M1), moderate for outwash areas (PP.GF1) and low for organic terrain (PP.O1). Unfavorable topography and drainage severely limit wetland areas, while outwash areas are limited mainly by unfavorable soil textures.

All river and stream courses (F1, F2) and permanent water bodies (W1) are rated as low to non-capable for improved grazing. The Redwillow River (F1) is limited by unfavorable topography, bedrock exposures and coarse-textured materials. Range improvements may be possible on fluvial terraces, but there is limited potential because of their small size, typically coarse, rapidly drained surficial materials. Unfavorable topography and drainage are the main limiting factors to improved grazing along both Albright and Steeprock Creeks.

4.2 Wildlife

Table 2 presents wildlife evaluations for moose, elk, lynx, coyote, beaver and muskrat. The moose and elk evaluations address fall/winter habitat requirements, while evaluations for the other species are based on year-round habitat requirements.

4.2.1 Ungulates

In general, the study area provides moderate quality habitat for ungulates. Fall/winter habitat is judged as slightly more favorable for elk than for moose because an adequate quantity of various forb and grass species which elk use as forage. The potential browse productivity of most plant associations has been rated as moderate to low and, hence, the supply of forage is judged to be less for moose than for elk. Thermal and escape cover is adequate for both species. Spring/summer habitat is generally rated at least one class higher (i.e.

moderate (high) fall/winter habitat is rated as high for spring/summer habitat) because of better food and hiding cover due to grass and forb growth and shrub foliage cover, respectively.

Table 2

WILDLIFE EVALUATIONS

	Fall Winter Habitat		Furbearers			
			Terrestrial		Aquatic	
Ecosection	Moose	Elk	Lynx	Coyote	Beaver	Muskrat
Beaverlodge Plain						
BP.GL1	M	M	M	M	L	L
BP.GL2	M(H)	M(H)	H	M	M	M
BP.GLM1	M(L)	M	M	M(H)	L	L
BP.M1	M	M	M	M	L	L
BP.M2	M(L)	M	M	H	L	L
BP.M3	M(L)	M	M(L)	M	L	L
BP.M4	M(L)	M	M(L)	M	L	L
BP.M5	M(L)	M	M	M	L	L
BP.M6	M	M	M	M	L	L
BP.O1	M(L)	L	M(H)	L	H	H
BP.OM1	L	M(L)	M	L	M	L
Pinto Plain						
PP.GF1	M(L)	M(L)	M(L)	M(L)	L	M
PP.M1	M(L)	M	M	M	L	L
PP.O1	M	M	L	L	L	H
Aquatic Ecosections						
F1	M	M(H)	H	M(H)	M(H)	M
F2	M	M(H)	H	M(H)	H	H
W1	NC	NC	NC	NC	H	H

Areas judged to provide the most favorable habitat include stream courses (F1, F2) and landscapes dominated by shrubland communities (BP.GL2). These ecosections supply moderate quantities of food, moderate to high thermal and escape cover and high habitat diversity within ecosections and between ecosites. Areas rated as low include those ecosections dominantly vegetated by Black spruce wetlands (BP.O1, BP.OM1).

4.2.2 Terrestrial Furbearers

A significant portion of the study area has been rated as providing moderate to high quality habitat for terrestrial furbearers (Table 2).

The most favorable habitat for lynx includes stream courses (F1, F2), Willow dominated landscapes (BP.GL2) and Black spruce dominated wetlands with a significant proportion of willow (BP.O1). These areas are considered to be high quality hare habitat and because hare is the major prey species upon which lynx feed, it follows that habitat quality is potentially high for lynx as well. Areas considered to provide the least favorable habitat for lynx include sedge dominated wetlands (PP.O1) and upland forests with little or no willow in the understory (BP.M3, BP.M4). All other landscapes have been rated as providing moderate quality habitat for lynx on a year-round basis.

Stream courses (F1, F2) and landscapes with abundant edge habitat as a result of agricultural activities (BP.M2) are judged to provide the most favorable habitat for coyotes. These areas likely support high prey populations and hence, have been rated as providing moderate (high) to high habitat for coyote on a year-round basis. Areas judged to provide low quality habitat for coyote include both black spruce (BP.01, BP.0M1) and sedge (PP.01) dominated wetlands. These areas likely do not support large prey species populations. All other landscapes have been rated as providing moderate quality habitat for coyote.

4.2.3 Aquatic Furbearers

Lakes (W1), streams (F1, F2) and wetland communities with either small permanent water bodies or intermittent streams (BP.01) are judged to provide moderate (high) to high quality habitat for both beaver and muskrat on a year-round basis (Table 2). Sedge dominated wetlands (PP.01) are judged to provide high quality habitat for muskrat, but low quality habitat for beaver. All other landscapes are judged to provide low quality habitat for aquatic furbearers.

Preferred beaver habitat includes lakes or streams which are greater than 1 m in depth and are not significantly affected by water fluctuations. Adjacent upland terrain contains young aspen and/or willow communities.

Preferred muskrat habitat includes shallow permanent wetlands with greater than 50% cover of emergent vegetation. Water fluctuations are likely not significant over the short term.

4.3 Forestry

Table 3 presents forest productivity evaluations for individual plant associations based on site index measurements. No data was available for the lodgepole pine associations that occur within the Pinto Plain, but a moderate productivity rating was assumed.

Table 4 presents overall forest productivity ratings for individual ecosections based on the proportion of individual plant associations within each ecosection. For per cent occurrence of individual association types within each ecosection, the reader is referred to either Section 3 (Description of Mapped Landscapes) or to Appendix 6 (Expanded Legend for Grande Prairie County West Study Area).

With the exception of Black spruce (BP.O1, BP.OM1) and Willow shrubland (BP.GL2) dominated landscapes, forest productivity within the Beaverlodge Plain is rated as moderate to high. Forest productivity within the Pinto Plain, however, has been rated somewhat lower. It is assumed that the cooler, shorter growing season generally associated with the Boreal Foothills Ecoregion would be less favorable for tree growth on moranal parent materials (PP.M1). Similarly, well to rapidly drained and poorly drained soils in ecosections PP.GF1 and PP.O1 may restrict tree growth through moisture deficiencies or excesses, inadequate nutrients (sands, acidic organic deposits) and inadequate soil oxygenation (organic soils).

Table 3

FOREST PRODUCTIVITY BY ASSOCIATION TYPE
(SITE INDEX @ 50 YRS)

Plant Association	Productivity Rating
Aspen/Alder	H
Aspen/Low-bush cranberry-Rose[1]	H
Aspen/Buffalo-berry[1]	M
Aspen-Balsam poplar	M
Balsam poplar/Red-osier dogwood	H
White spruce-Aspen	H
White spruce/Feathermoss	M
Lodgepole pine/Feathermoss	M
Lodgepole pine-Aspen	M
Black spruce/Labrador tea/Moss	L
Willow Shrubland	L
Dwarf birch/Sedge/Golden moss	L

[1] Because of the problems of identifying and separating communities belonging to the Aspen/Low-bush cranberry-Rose association from those belonging to the Aspen/Buffalo-berry association, an overall rating of moderate (high) (M(H)) was given where both of these association types occur together.

Table 4

FOREST PRODUCTIVITY BY ECOSECTION

Ecosection	Productivity Rating
Beaverlodge Plain	
BP.GL1	M
BP.GL2	L
BP.GLM1	M(H)
BP.M1	M(H)
BP.M2	M(H)
BP.M3	H
BP.M4	M(H)
BP.M5	M(H)
BP.M6	M(H)
BP.O1	L
BP.OM1	L
Pinto Plain	
PP.GF1	L
PP.M1	M
PP.O1	L
Aquatics	
F1	M
F2	M(L)
W1	NC

Appendix 1

TILLED CROPPING

Till cropping evaluations were derived for individual ecosections based on a Soil Rating Schedule (1979) developed by the Lands Division, Alberta Energy and Natural Resources, Alberta Soil Survey and Alberta Municipal Affairs (Table 1).

The first step in using the Soil Rating Schedule (1979) system is to identify the soil zone that represents the study area in question. Soil zones roughly approximate climatic zones. For example, Gray Luvisols typically occur under boreal forests and implies a particular climatic regime. Once the soil zone has been recognized, it is then rated according to the number of frost-free days in the area. Secondly, soil profile variation, soil texture, stoniness and topography are rated. These ratings represent percentages and are sequentially multiplied by the soil rating. For example:

Ecosection BP.M1

Soil Zone	Gray Luvisol - less than 5 cm Ah, greater than 15 cm Ae; approximately 80 frost-free days	50
Profile Variation	weak solonetzic structures	90/100
Texture	loams over clay loams	90/100
Stoniness	5-10% gravels	85/100
Topography	2-5% slopes	80/100

$$50 \times 0.90 \times 0.90 \times 0.85 \times 0.80 = 27.5$$

Calculations are done for each of the 60 sites to obtain an overall rating for each ecosection. Each ecosection is assigned to an evaluation class in accordance with the number of points derived from the above procedure (Table 2).

Table 1

STORIE INDEX RATINGS[1]

Storie Index Classes	Numerical Rating	Capability
5	28 - 41	Fair to fairly good arable
4	16 - 28	Marginal arable
3	9 - 16	Good to excellent pasture
2	4 - 9	Fair to good pasture
1	0 - 4	Poor to fair pasture

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[1] Alberta Soils Advisory Codmmittee. 1983. Agriculture Systems of Rating Arable Land in Alberta. Soils Branch, Alberta Agriculture, Edmonton.

Table 2
SOIL RATING SCHEDULE 1979

Soil Zone (Colour and Depth of Ah Horizon)	Rating
1. Brown	30-45
2. Dark Brown	45-70
3. Thin Black - less than 15 cm Ah	70-85
4. Black - more than 15 cm Ah	85-100
5. Dark Gray - generally 10-15 cm Ah	
(a) +90 frost-free days	75-85
(b) 75-90 frost-free days	65-75
(c) 60-75 frost-free days	55-65
6. Dark Gray Luvisol - greater than 5 cm Ah, less than 10 cm Ah, Ae exceeding Ah	
(a) +90 frost-free days	65-75
(b) 75-90 frost-free days	55-65
(c) 60-75 frost-free days	45-55
7. Gray Luvisol - less than 5 cm Ah, Ae exceeding Ah but less than 15 cm	
(a) +90 frost-free days	65-70
(b) 75-90 frost-free days	55-65
(c) 60-75 frost-free days	45-55
8. Gray Luvisol - less than 5 cm Ah, greater than 15 cm Ae	
(a) +90 frost-free days	50-55
(b) 75-90 frost-free days	40-50
(c) 60-75 frost-free days	35-45
9. Brunisolic Gray Luvisol and Podzol	
(a) +90 frost-free days	35-45
(b) 75-90 frost-free days	30-35
(c) 60-75 frost-free days	25-30

Profile Variation	
1. Immature (little or no profile development)	50-90
2. Normal profile - moderately to well developed, well drained	90-100
3. Shallow profile - on slopes, on gravel, on bedrock, etc.	10-90
4. Deep mineral surface layer - some low areas, wind accumulation, etc.	80-120
5. Solonchak - saline - little profile development	20-50
6. Solonetz - some saline - well developed hardpan, near surface	30-60
7. Solodized Solonetz - fairly well developed hardpan, some Ae	50-80
8. Solodic - weak hardpan, often appreciable Ae	70-90
9. High lime profile - lime at or very near surface	50-80
10. Gleysolic - low and high humic, non-saline soils, lacking good drainage	40-80
11. Organic - Humisol	55-80
- Mesisol	35-55
- Fibrisol	10-35
12. Acidity - at approximately 25 cm - pH 5.5-5.0	60-80
- pH 4.5-5.0	30-60
- pH less than 4.5	10-30

Texture	
1. Sand [with normal subsoil - (sand)]	10-25
2. Loamy sand [with normal subsoil - (sandy)]	25-40
3. Sandy loam [with normal subsoil - (heavier)]	40-70
4. Loam [with normal subsoil - (heavier)]	60-90
5. Silt loam [with normal subsoil - (heavier)]	80-100
6. Clay loam [with normal subsoil - (heavier)]	75-95
7. Clay [with normal subsoil - (clay)]	60-90

Stones	
0. None	100
1. Few - no serious handicap to cultivation	95
2. Some - require removal	85
3. Many - serious handicap to cultivation	75
4. Very many - excessively stony for cultivation	50

Topography	% Slope	Variation Frequency per Half Mile	Rating
1. Level and depressional	0	0	50-90
2. Level to gently undulating	0 to 1	2 or less	90-100
3. Undulating	1 to 2	2 or less	80-90
4. Very gently rolling	2 to 4	3 or more	70-80
5. Gently rolling	4 to 8	3 or more	60-70
6. Moderately rolling	8 to 15	3 or more	40-60
7. Strongly rolling and hilly	Over 15	3 or more	30-40

Appendix 2

UNIMPROVED GRAZING

An estimate of productivity was based on vegetation composition and biomass data collected during the summer of 1985. Vegetation data was classified into plant associations (detailed descriptions in Volume II) and proportions of each association were determined for each ecosection according to both vegetative and environmental characteristics associated with that particular landscape.

The data was analysed for two characteristics. The first was the quality of the species available for grazing, while the second characteristic was the quantity of available biomass. Plant species to be included in analysis must meet the following critiera:

1. The particular shrub, forb or grass/graminoid species must be present in at least 60% of the plots comprising the particular plant association.
2. The particular shrub, forb or grass/graminoid species must have an average cover value greater than or equal to five percent.

These criteria emphasize the more "important" species in terms of both quality and quantity.

The species quality was estimated by multiplying the mean percentage cover value of the species in each vegetation type by its quality rating (Table 1) summing these values and dividing by the total

Table 3

FORAGE VALUES[1] OF SELECTED PLANTS IN THE GRANDE PRAIRIE COUNTY WEST STUDY AREA

	Forage Values[2]	
	Cattle	Ungulates
Grasses/Sedges		
Hairy wild rye	1	1
Marsh reed grass	3	3
Sedges	3	5
Forbs		
Bunchberry	1	5
Twinflower	1	1
Fireweed	0	5
Peavine	5	5
Strawberry	1	5
Showy Aster	3	5
Wild sarsaparilla	0	3
Blueberry	1	4
Shrubs		
Buffalo-berry	0	1
Low-bush cranberry	5	5
Meadow sweet	0	1
Willow	3	5
Prickly rose	2	3
Alder	1	1
Red-osier dogwood	3	5

---

[1] Strong and Anderson. 1980. p. 73. Latin nomenclature presented in Volume II.

[2] Forage values: 5 - very high, 3 - fair, 1 - low, 0 - very low to nil.

species cover in the shrub, herb and forb layers. Such a procedure is intended to provide a general guide to the palatability, preference and nutrient value of the species relative to their abundance. Calculations for each association are detailed below.

Strong (1981) defined ratings for both quantity and quality using numerical criteria to separate the classes. The class limits which he used were also used for those evaluations and are as follows:

Rating	Quantity kg/ha	Cover Quality Index
High	+1 500	+ 3.5
Moderate	600-1 500	2.0-3.4
Low	0- 600	0-1.9

Figure 1 illustrates the relationship between quantity and quality characteristics. To summarize the relationship between the quality and quantity of forage, a three-part evaluation system was used; high, moderate and low. For example, if the area being evaluated has forage of high quality that is abundant (+1 500 kg/ha), it would be viewed as having a high capability to support grazing. Conversely, areas with a low quantity and quality of forage would have a low capability for unimproved grazing.

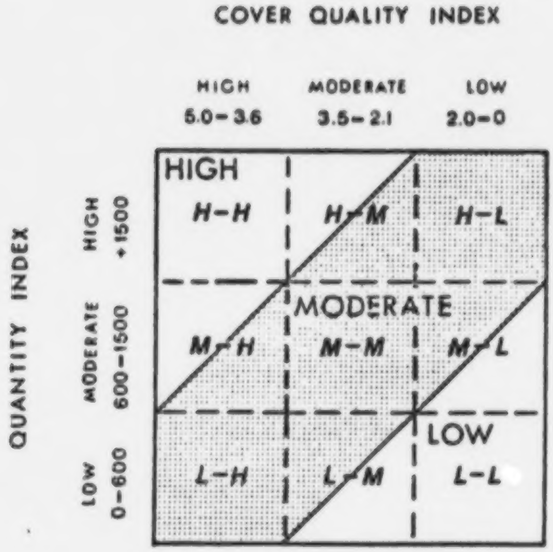


Fig. 1. Cover Quality and Quantity Index

RESULTS

Aspen/Buffalo-berry Association

	% Cover x Cover Quality	Total Cover
Shrubs	69	70
Forbs	28	51
Grasses/Graminoids	6	10
	103	131

Cover quality rating = 0.78
Quantity index = 299 kg/ha (browse, forbs, graminoids)
Overall unimproved grazing rating - low

Aspen/Low-bush cranberry-Rose Association

	% Cover x Cover Quality	Total Cover
Shrubs	131	60
Forbs	38	54
Grasses/Graminoids	36	15
	205	129

Cover quality rating = 1.58
Quantity index = 396 kg/ha
Overall unimproved grazing rating - low

Aspen/Alder Association

	% Cover x Cover Quality	Total Cover
Shrubs	84	45
Forbs	37	54
Grasses/Graminoids	0	3
	121	102

Cover quality rating = 1.18
Quantity index = 236 kg/ha
Overall unimproved grazing rating - low

Aspen/Honeysuckle Association

	% Cover x Cover Quality	Total Cover
Shrubs	152	60
Forbs	0	60
Grasses/Graminoids	42	15
	194	135

Cover quality rating = 1.44
Quantity index = 510 kg/ha
Overall unimproved grazing rating - low

Balsam poplar/Red-osier dogwood Association

	% Cover x Cover Quality	Total Cover
Shrubs	265	99
Forbs	0	20
Grasses/Graminoids	0	0
	265	119

Cover quality rating = 2.22
Quantity index = 140 kg/ha
Overall unimproved grazing rating - low

White spruce-Aspen Association

	% Cover x Cover Quality	Total Cover
Shrubs	169	55
Forbs	24	55
Grasses/Graminoids	0	2
	193	112

Cover quality rating = 1.72
Quantity index = 240 kg/ha
Overall unimproved grazing rating - low

White spruce/Feathermoss Association

	% Cover x Cover Quality	Total Cover
Shrubs	35	10
Forbs	35	30
Grasses/Graminoids	7	8
	77	48

Cover quality rating = 1.6
Quantity index = 144 kg/ha
Overall unimproved grazing rating - low

Willow/Shrubland Association

	% Cover x Cover Quality	Total Cover
Shrubs	99	70
Forbs	0	25
Grasses/Graminoids	105	36
	204	131

Cover quality rating = 1.55
Quantity index = 730 kg/ha
Overall unimproved grazing rating - low

Dwarf birch/Sedge/Golden moss Association

	% Cover x Cover Quality	Total Cover
Shrubs	4	50
Forbs	0	19
Grasses/Graminoids	30	15
	34	84

Cover quality rating = 0.40
Quantity index = 703 kg/ha
Overall unimproved grazing rating - low

All other associations delineated for the study area (Lodgepole pine/Low-bush cranberry, Lodgepole pine-Black spruce/Labrador tea/Feathermoss, Lodgepole pine/Feathermoss, Black spruce/Labrador tea/Sphagnum moss) have been rated as having low potential for forage productivity.

Appendix 3

IMPROVED GRAZING

Improved grazing ratings were obtained by modifying tilled cropping evaluations with reference to the following critiera:

1. If tilled cropping (Storie Rating) ratings were marginal to fair arable (Appendix 1, Table 1; 16-41 points), then the landscape was rated as having a high potential for improved grazing.

2. If tilled cropping ratings were rated as non-arable, but fell into the fair to excellent pasture (4-16) class, then the potential for improved grazing was considered to be moderate. Other limitations (Table 1) are also considered.

3. If tilled cropping ratings were rated as non-arable, but fell into the poor to fair pasture (0-4) class, then the potential for improved grazing was considered to be low. Other limitations (Table 1) are also considered.

Table 4

LIMITATIONS FOR IMPROVED GRAZING[1]

Factor	Slight or Limitation	Moderate Limitation	Severe Limitation
Topography (Slope)	0-30%	30-45%	>45%
Bedrock Exposure	Less than 5% of landscape	5-25% of landscape	> 25% of landscape
Drainage	Moderately well to well	Imperfect	Rapid, poor to very poor
Stoniness	Non to very stony	Exceedingly	Excessively

---

[1] Source: Strong and Anderson 1980.

Appendix 4

HABITAT EVALUATION METHODS FOR SELECTED UNGULATE AND FURBEARER SPECIES

Habitat evaluation criteria are presented for the following species:

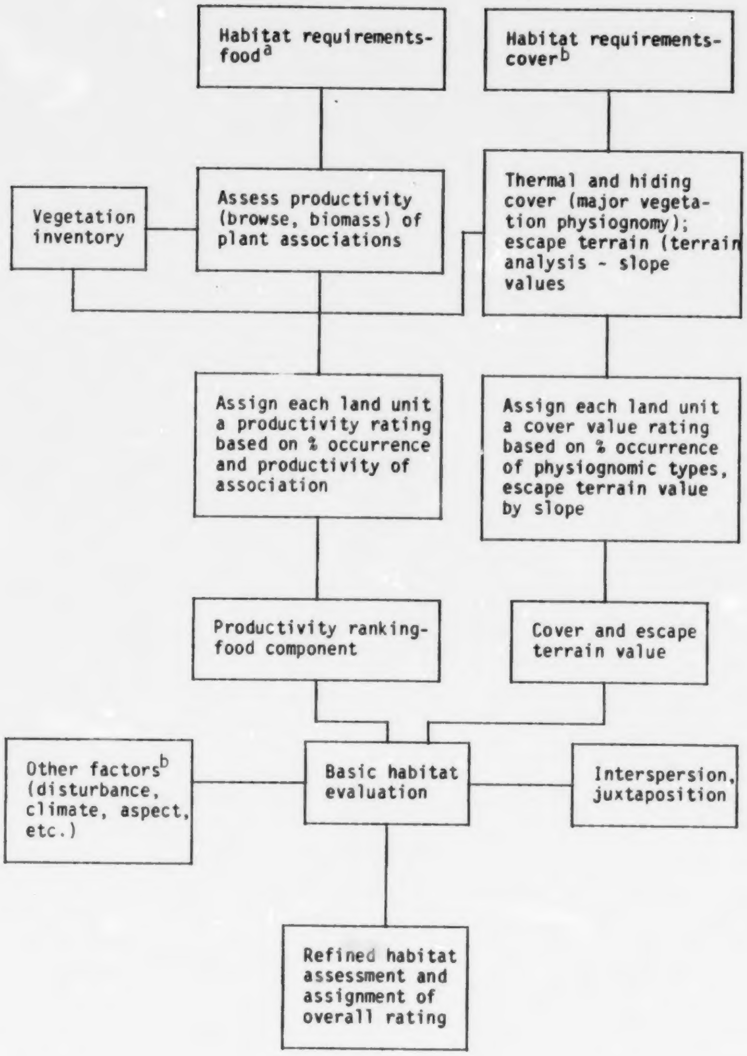
1. Ungulates
   - 1.1 Moose
   - 1.2 Elk
2. Terrestrial Furbearers
   - 2.1 Lynx
   - 2.2 Coyote
3. Aquatic Furbearers
   - 3.1 Beaver
   - 3.2 Muskrat

The methods presented have been developed through published habitat models, literature searches and communication with regional habitat biologists, with emphasis on techniques applicable to the scale at which integrated resource inventories are conducted (1:100 000).

1. UNGULATES

A sequence of steps was followed in evaluating the habitat suitability of individual landscape units for moose and elk. Figure 1 shows a general scheme for ungulate habitat evaluation. Each of these steps is detailed below.

1. Major habitat requirements (food and cover) for ungulates were identified, reviewed and summarized. Weightings were


Habitat requirements-food[a]
Habitat requirements-cover[b]
Vegetation inventory
Assess productivity (browse, biomass) of plant associations
Thermal and hiding cover (major vegetation physiognomy); escape terrain (terrai analysis - slope values
Assign each land unit a productivity rating based on % occurrence and productivity of association
Assign each land unit a cover value rating based on % occurrence of physiognomic types, escape terrain value by slope
Productivity ranking-food component
Cover and escape terrain value
Other factors[b] (disturbance, climate, aspect, etc.)
Basic habitat evaluation
Interspersion, juxtaposition
Refined habitat assessment and assignment of overall rating

[a] Weight assigned is species dependent

[b] May be an important part of the basic habitat; therefore may be entered at a higher position in the framework.

Fig. 2. GENERAL FRAMEWORK - UNGULATE HABITAT EVALUATION

assigned to these requirements as per Fish and Wildlife Species Habitat Relationship Models (IEC Beak, 1984).

2. For a given landscape unit, the major physiognomic types (i.e. coniferous-dominated mixedwood forest) and plant associations (i.e. balsam poplar/dogwood) that occur within are identified and recorded with an estimate of percentage occurrence (i.e. 70% willow shrubland and 30% Aspen/Low-bush cranberry-Rose).

3. Using relative productivity rankings derived from statistical analyses of biomass productivity for each plant association, forage and biomass productivity were rated for individual landscapes based on the plant association present within. For example, where an association ranked as low productivity occurred over 70% of a landscape unit and one with moderate over the remaining 30%, the landscape unit was rated M^3L^7.

4. Using the species habitat relationship models, cover was rated for individual landscapes by physiognomic criteria and may vary seasonally with changes in foliage. For example, closed coniferous forests provide year-round cover and are hence rated as high quality, whereas deciduous forests provide moderate cover during the winter and high cover during the summer (Tables 1 and 2).

5. Interspersion and juxtaposition were assessed to modify the rating obtained from food and cover assessments. Both are discussed below.

Interspersion

Interspersion is defined as "a measure of heterogeneity for both food and cover attributes within a landscape," a modification of the definition given by Giles (1978, in Heinen and Cross 1983). A three-level hierarchy was developed with classes defined as follows:

Low - the occurrence of two or more similar (in terms of food and cover) plant associations having low habitat values (food and cover), or the dominance of one plant association having low habitat value.

Moderate - the occurrence of two or more plant associations each of which satisfies some of the habitat requirements.

High - the occurrence of two or more plant associations which, alone or in combination, satisfy all the major habitat requirements.

Juxtaposition

Juxtaposition is defined as "an assessment of the habitat value of a landscape relative to that of adjacent landscapes and the contribution of the adjacent landscapes to the landscape being evaluated for a given wildlife species," a modification of the definition given by Giles (1978, in Heinin and Cross 1983). Juxtaposition was not assessed in the Fish and Wildlife Habitat Relationship Models (IEC Beak 1984) which were developed for use with 1:1 000 000-scale habitat sub-region maps. However, at a scale of 1:100 000, as is being used in the integrated resource inventory and planning processes, a measure of juxtaposition may be just as important or even more important than a measure of interspersion. Because wildlife can be highly mobile, any given landscape unit may form only a part of the individual animal's range. It follows that, for wildlife evaluations, landscapes should not be treated as discrete units, but should be evaluated with reference to adjacent landscapes. Juxtaposition is very similar to interspersion in that it is a measure of habitat heterogeneity; the difference is that juxtaposition equals heterogeneity between landscapes, whereas interspersion equals heterogeneity within landscapes.

A three-level hierarchy similar that for interspersion was used to judge juxtaposition.

> Low - plant associations within a given landscape which are either the same or similar in terms of food and cover to those of adjacent landscapes; and/or adjacent landscapes including plant associations which are of low habitat value.
>
> Moderate - the occurrence in adjacent landscapes of plant associations which contrast with those of the landscape being evaluated, and which satisfy some of the major habitat requirements (food or cover).

High - the occurrence in adjacent landscapes of plant associations which contrast with those of the landscape being evaluated, and which satisfy all of the major habitat requirements.

Boundary characteristics such as the degree of interdigitation, number of adjacent landscapes and area and shape of the landscape being evaluated are also considered.

6. Landform, relief, disturbance, aspect and aquatic form are also considered in habitat suitability assessment. In the Fish and Wildlife Species Habitat Relationship Models, these variables are considered less important than vegetation (food and cover) and interspersion. Accordingly, such variables are not considered as important in the evaluations, in most cases, and are used to modify the ranking obtained from food, cover, interspersion and juxtaposition.

7. A five-level hierarchy was used to rank landscape units for ungulates based on habitat quality.

H	High
M(H)	Moderate (High)
M	Moderate
M(L)	Moderate (Low)
L	Low

These are defined as follows:

High - high to moderate food availability, high to moderate cover quality, high interspersion and high juxtaposition.

Moderate - moderate food availability, moderate to high cover quality, moderate interspersion and moderate juxtaposition. This class has been divided into three subclasses as above. It is here that the other variables such as landform, aspect, etc. come into play in modifying the evaluation.

Low - low to very low food availability, low to high cover quality, low interspersion and juxtaposition.

1.1 MOose

Habitat suitability evaluations for moose were conducted as stated above. Food and cover (Tables 1 and 2) are assumed to contribute 60% and 40% of the habitat requirements for moose, respectively.

1.2 Elk

Habitat suitability evaluations for elk were conducted for the fall/winter as stated above. Food (browse and grass/forbs) and cover (thermal and escape) (Table 1) are assumed to contribute 45% and 55% of the habitat requirements for elk, respectively. Winter weather conditions were not assumed to be severe (Olson, 1984).

Table 5

THERMAL COVER REQUIREMENTS FOR UNGULATES DURING THE FALL/WINTER

Ranking	Physiognomic Structure	Rationale/Reference
Best	Coniferous forest Coniferous-dominated mixed forest	Coniferous forest provides the best cover and suitable coniferous stands may be found in coniferous-dominated mixed forests.
Moderate	Deciduous forest Deciduous-dominated mixed forest Muskeg	Mixedwood and deciduous forest can be utilized as cover during fall/winter. Muskeg with a significant percentage of treed cover can provide thermal cover.
Poor	Shrubland Shrubland with subdominant grass/forb	Categories ranked as poor offer little treed cover.
Inadequate	Non-vegetated water Cultivated Cultivated annual crops Cultivated perennial forage	Forest cover is required to provide thermal cover for moose during fall/winter; therefore categories with no forest cover are inadequate.

Table 6

THERMAL REPRUDUCTIVE AND ESCAPE COVER REQUIREMENTS FUR MOUSE DURING THE SPRING/SUMMER

Ranking	Physiognomic Structure	Rationale/Reference
Best	Coniferous forest Coniferous-dominated mixed forest Deciduous-dominated mixed forest Deciduous forest	Wooded categories provide the best cover because of the dense overstory in coniferous forest and the well-developed understory of deciduous forest. These provide maximum shade and obstruction of lines in sight.
Moderate	Shrubland	The categories ranked as moderate and poor have progressively less vegetation that offers shade and obstruction to lines of sight.
Poor	Shrubland with subdominant grass/forb Muskeg	
Inadequate	Non-vegetated water Emergent aquatics Mixed grass/forb cover Cultivated Cultivated annual crops Cultivated perennial crops	Trees or tall shrubs are required to provide the obstruction of lines of sight needed for reproductive and escape cover, and to provide shade to lessen heat stress, for an animal the size of a moose. Therefore, categories without treed or tall shrub cover are inadequate.

2. TERRESTRIAL FURBEARERS

Habitat suitability evaluations were requested for lynx and coyote. It was found that in some instances, habitat assessment was more dependent upon prey species (lynx cycle is closely tied to that of hare), while in other situations habitat was evaluated on the basis of cover type, density and prey species.

2.1 Lynx

Based on discussions with habitat biologists (A. Todd, K. Moller, B. Wynes 1986) and information gathered during a literature review, the following rating scheme has been developed for habitat suitability for lynx.

High - willow thickets, river valleys, aspen communities with dense understory vegetation suitable for hare browse, or very young dense coniferous stands which provide hiding cover for hare.

Moderate - coniferous wetlands with a minor component of willow, deciduous and mixedwood communities with lesser amounts of suitable understory vegetation for hare.

Low - mature coniferous communities with little or no shrubby understory vegetation that would be used as browse by hare; cleared agricultural land.

Non-capable - water bodies.

2.3 Coyote

The following evaluation criteria were developed through a literature review and communication with regional habitat biologist (K. Moller 1986). A four-level hierarchy was developed to evaluate landscape suitability for coyote.

High - areas with abundant edge created as a result of agricultural clearing. logging or fire which support a high Population of prey species.

Moderate - areas in which agricultural clearing, clearcutting or fire have not been a major influence, but prey species are found.

Low - areas with continuous cover which have relatively little or no food value for prey species, no edge.

Non-capable - open water.

3. AQUATIC FURBEARERS

3.1 Beaver

The following habitat suitability assessment framework to assess the suitability of individual landscapes for beaver was developed using several habitat suitability index models (Allen 1982; IEC Beak 1984) and through discussions with the regional habitat biologist.

High - permanent water bodies that occupy greater than 50% of the landscape being evaluated, adjacent upland terrain containing young aspen, water depth exceeding 1 m, water level fluctuations kept to a minimum.

Moderate - permanent water bodies that meet the habitat requirements but occupy 10-50% of the landscape area.

Low - upland areas with small water bodies which are either too shallow or of intermittent nature. Water bodies account for less than 10% of total area.

Non-capable - upland areas with no water bodies.

3.2 Muskrat

Information to assess the habitat suitability of particular landscapes was obtained from habitat suitability models (Allen and Hoffman 1984). A four-level hierarchy was established to present the evaluations.

High - 50% or more of wetland areas covered with dense emergent vegetation, water level fluctuations almost non-existent.

Moderate - 10-50% of the wetland area covered by dense emergent vegetation.

Low - less than 10% of the wetland area covered with dense emergent vegetation; open lakes, ponds or dry lowlands choked with vegetation.

Non-capable - upland area with no wetland areas that met some of the habitat requirements.

Appendix 5

FORESTRY EVALUATIONS

Forest productivity information is used as the sole criterion upon which forestry evaluations for individual ecosections are based. It is recognized that other factors of ecological and silvicultural importance (e.g. erosion, site treatment, species selection) should be included in forestry evaluations. However, because of time constraints, development of an appropriate evaluation methodology was directed toward a reproducible means of assessing productivity.

The plant association is used here as the basic productivity unit. Height, age and diameter measurements from all plots included within an association are used to calculate site index (SI), a measure of site productivity commonly employed in forest site assessment. Simple descriptive statistics (mean, standard deviation) are calculated for SI for each association. Subsequently, associations can be compared and ranked according to relative productivity on a local or provincial scale.

Once plant associations have been classified, data from individual sites within ecosections along with 1:15 000 Phase 3 forest cover maps and available air photos are used to deduce the most commonly occurring associations within a given ecosection. A simple productivity rating for SI can then be assigned to an ecosection if associations of similar productivity predominate (e.g. moderate or M).

Where two or three associations with different productivities occur within an ecosection it is necessary to define productivity complexes. Given the low sampling intensity and the scale of air photos available for the Grande Prairie County West study, it is impossible to accurately determine the percentage of aerial coverage of a given association within an ecosection. Therefore, broad productivity complexes using intervals of 20 to 30% are used. For example, in a given ecosection one association ranked as being highly productive (H) might be judged to occur over about 70% of the area, and another association which is moderately productive (M) over the remaining 30%. The productivity complex is thus H^7M^3. A maximum of three associations are used to define productivity complexes.

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Volume

2

Integrated Resource Inventory
Grande Prairie County West
Volume II

Alberta
FORESTRY, LANDS AND WILDLIFE
Resource Evaluation
and Planning

INTEGRATED RESOURCE INVENTORY
OF
THE GRANDE PRAIRIE COUNTY WEST STUDY AREA

Volume II

Vegetation Classification

by.

Dennis O'Leary
David Downing

1986
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VOLUME II

VEGETATION CLASSIFICATION OF THE GRANDE PRAIRIE COUNTY WEST STUDY AREA

1. INTRODUCTION

This volume supports the main Grande Prairie County West Integrated Resource Inventory document (Volume I). In Volume I, plant associations are correlated to ecosections (landscape units). In Volume II, these plant associations are described in more detail with reference to both floristic and environmental characteristics.

Volume II has three sections, which address study methods, plant association descriptions and productivity, respectively. Study area location, natural resource information (including vegetation), and overall study methodology are covered in Volume I. A more detailed discussion of related vegetation work is included where appropriate in Volume II. The appendices to Volume II include vegetation, mensuration, environment and soils data for individual sites examined during this study.

2. STUDY METHODS

2.1 Field Sampling

Before field sampling, background information from previous resource inventory studies was examined along with air photos to produce a preliminary landscape stratification. Study plots were subsequently chosen using the preliminary landscape units as sampling areas. Within these, plant communities were selected that appeared to be extensive and relatively homogeneous.

At each site, vegetation and environment data were collected. Mensuration, palatable browse and biomass data were also collected at a number of sites so that site productivity could be determined. Data collection methods are fully detailed in the Integrated Resource Inventory Site Manual (Alberta Energy and Natural Resources 1985). Data for this study were collected by Pedocan Land Evaluation Ltd. staff (Edmonton), under contract to the Resource Evaluation Branch. Site selection, data analyses and report preparation were the responsibility of Resource Evaluation Branch staff.

2.2 Data Analysis

2.2.1 Aggregation of Sample Plot Data

Vegetation data were grouped by species composition according to the tabular method described by Mueller-Dombois and Ellenberg (1974).

Plots having similar species composition and cover were grouped into plant associations, which were named according to the dominant species in one or more of the layers (e.g. the Aspen/Buffalo-berry association has trembling aspen as the dominant tree and buffalo-berry as the dominant shrub). Environment data were aggregated by plot according to the groups defined through vegetation classification. Refinement of the classification was an iterative process involving minor reorganization of plot data. The objective of this process was to define plant associations that were different from each other in terms of both species cover and composition, and environmental factors. Data collected within the study area in this study and in previous studies (Archibald et al. 1984) contributed to the data base used in analysis.

This stage of data analysis was conducted using vegetation, tree mensuration and environment programs run through the University of Alberta's mainframe computer. A brief description of each program and information it generates is given in Appendix 1 of this volume.

2.2.2 Statistical Analyses

Statistical analyses were used to compare site productivity between the associations established through aggregation of sample plot information. Mean, standard deviation, and range about the mean at 70% confidence levels were calculated for mensuration, forb and grass biomass, and palatable browse biomass data; these calculations were performed on data from each of the plot groupings used to define the associations.

It should be noted that at least one major assumption regarding statistical analysis is not met, namely that sampling be unbiased. In the strict sense, only randomly selected data samples should be used. From an operational viewpoint, however, access problems and the necessity of sampling all major variations in the study area within a relatively short period of time makes random sampling impractical.

The concept of plot selection used in the Grande Prairie County West study is similar to that advocated by Mueller-Dombois and Ellenberg (1974) - "subjective without preconceived bias." That is, plots were not consciously located within communities which represented the investigators' opinion of what "should" be found in a given place. Nevertheless, some bias is unavoidable and, especially when taken together with small sample sizes, might still affect results to a significant degree. The statistical analyses reported in Section 4 of this volume should therefore be used only as indicators of general trends and should not be interpreted too strictly.

3. PLANT ASSOCIATION DESCRIPTIONS

This section describes 13 terrestrial plant associations occurring in the Grande Prairie County West study area. Plot data from 59 sample plots were analysed and grouped to derive most of these associations according to methods described in the previous section. Association descriptions are presented below and include a summary of vegetation and environmental characteristics. The name assigned to each association indicates those species which are considered most representative of the association. Plants occurring in different layers are separated by a slash (/); species within the same layer are separated by a dash (-).

Environment characteristics included in the summaries are those judged to exert the largest effect on plant community development. The edatopic grids provided for each association graphically portray the range of soil moisture and nutrient conditions within which the association can be expected to occur.

The vegetation summary for each association includes a list of plant species and a summary of stand characteristics. The plant species listed are considered characteristic of the association being discussed and are usually constant, that is, occurring in more than 60% of sampled plots. The letter "d" following some of the species names means that the indicated species occurs with greater abundance than other species, and always with more than five percent foliar cover. These species are referred to as dominant in the accompanying text by virtue of their abundance relative to other species[1]. Stand characteristics include the average height, age, stem diameter, stem density and canopy cover of trees in the main canopy. Detailed vegetation, environment and mensuration information used in preparing the summaries is provided in Appendix 1 of this volume. Scientific and common names of all vascular and non-vascular plants encountered during this study are recorded in Appendix 1, following the Summary Vegetation Tables.

Some of the plant associations presented in this document are derived from other studies conducted by the Resource Evaluation Branch and do not use field data collected specifically for the Grande Prairie County West study. This is necessary because financial and time constraints allowed sampling of major vegetation/environment variations, but precluded sampling of other less extensive, but nevertheless significant, variations. The reader should note that the level of information collected in these other studies may be different in minor respects from that collected for this study. Detailed data for associations included in other studies is not given in Appendix 1 of this report but may be referred to in the relevant documents (cited with the appropriate association).

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[1] In the strict sense, dominance is attributed to organisms that have a significant effect on the community (Odum 1971, p. 141). As the term is used differently here, this may or may not be true.

An identification key (Table 3.1) accompanies this section of Volume II. This key is intended to assist the user in assigning communities delineated in the field to the most appropriate association, and can be used like any ordinary taxonomic key (e.g. Moss 1983).

Table 3.1

KEY TO PLANT ASSOCIATIONS OF THE GRANDE PRAIRIE COUNTY WEST STUDY AREA

Guidelines for Use

(1) Use this key for stands that have not been severely disturbed recently by fire, logging, cultivation, grazing, etc. and that have had sufficient time to stabilize after disturbance (20-30 years).

(2) Choose a spot that appears to be representative of the community (and landform) of interest to you.

(3) Verify that the area chosen is representative of the stand by examining the surrounding area. If not, select another plot.

(4) Using a 10 m x 10 m plot, identify and record the major plant species in each of the tree, shrub, forb, grass and moss layers (all of these might not be present at a particular site). Estimate the relative abundance of each species (in a 10 m x 10 m or 100 m^2 plot, coverage can be estimated in square metres and converted directly to per cent).

(5) Enter the key with the vegetation information collected in the plot along with appropriate environmental information (e.g. slope position, presence or absence of open water). Work through the key until you find the best match between field data and descriptions given in the key.

(6) Refer to the written descriptions within the text to verify the identification. Remember that the plant association is a composite picture of several field plots and is not likely to correspond exactly to the plant community you are examining.

- -

1a Wetlands: Water table close to or at soil surface, on level or depressional terrain. Organic, gleysolic soils. Willow, dwarf birch, black spruce, sedges, sphagnum and other mosses predominate 2

1b Uplands Water table generally >30 m from soil surface, soils generally not wet for most of growing season. Primarily Luvisolic, Brunisolic soils; Aspen, balsam poplar, white spruce, lodgepole pine 4

2 Treed fens with black spruce, labrador tea and sphagnum mosses, species-poor, very common in study area . . . . Black spruce/
Labrador tea/Sphagnum
moss association (Sec. 3.3.1)

Treeless fens 3

3a Willow dominated with tufted moss, sedge; water table at or below soil surface (no open water generally) . . . . Willow shrubland
association (Sec. 3.3.2)

3b Dwarf-birch dominated with sedge, golden moss; open water always present . . . . Dwarf birch/Sedge/
Golden moss association
(Sec. 3.3.3)

4 Aspen and/or balsam poplar dominant 5

White spruce, lodgepole pine or black spruce dominant 8

5a Balsam poplar dominant, with red-osier dogwood and alder in understory - uplands, fluvial terraces . .Balsam poplar/
Red-osier dogwood-Alder
association (Sec. 3.1.5)

5b Aspen and balsam poplar codominant, bracted honeysuckle, red-osier dogwood, on moist sites . . . Aspen-Balsam
poplar/Honeysuckle
association (Sec. 3.1.4)

5c Aspen dominant, green alder not present 6

Aspen dominant, green alder present (>5% cover) 7

6a Buffalo-berry present (>20% cover, greater than low-bush cranberry and rose); honeysuckle, reedgrass, dewberry and tall mertensia absent or present with very low (<2%) cover . . . . Aspen/
Buffalo-berry
association (Sec. 3.1.1)

6b Low-bush cranberry and/or rose dominant; honeysuckle, reedgrass, dewberry and tall mertensia present with >2% cover . . . . Aspen/
Low-bush cranberry
Rose association
(Sec. 3.1.2)

7 Green alder present and dominant in shrub layer
with white meadowsweet; generally on upper slope
positions . . . . .Aspen/Alder
association (Sec. 3.1.3)

8 White spruce dominant or codominant 9

Lodgepole pine dominant or codominant 10

9a White spruce codominant with aspen; low-bush
cranberry and/or rose abundant in understory,
relatively species-rich . . . . White spruce-Aspen/
Low-bush cranberry-Rose
association (Sec. 3.1.2)

9b White spruce dominant; understory species-poor and dominated by feathermosses . . . . . White spruce/
Feathermoss
association (Sec. 3.2.2)

10 Lodgepole pine codominant with black spruce,
labrador tea and feathermoss understory,
moist, lower-slope sites . . . . Black spruce-Lodgepole
pine/Labrador tea/
Feathermoss association
(Sec. 3.2.5)

Lodgepole pine dominant 11

11a Species-poor understory dominated by
feathermosses, dry sites, open stands . . . Lodgepole pine/
Feathermoss association
(Sec. 3.2.4)

11b Species-rich, understory dominated by
shrubs and forbs, moderately moist sites
in middle slope positions . . . . .Lodgepole pine/
cranberry/Sarsaparilla
association (Sec. 3.2.3)

3.1 Deciduous Forest Associations

Deciduous forests cover more than 50% of the Grande Prairie County West study area. Three aspen-dominated associations, one aspen-balsam poplar association and one balsam poplar association are described below, based on analyses of vegetation and environment data from 54 sites within the study area, and on data presented in Archibald et al. 1984 (Volume II).

3.1.1 Aspen/Buffalo-berry Association (**Populus tremuloides/Shepherdia canadensis**)

Site and Soil Characteristics

Number of sample sites: 15
Moisture regime : Mesic
Nutrient regime : Mesotrophic
Slope position : Variable
Mean slope : 1.6% (sample min., max. = 0%, 4%)
Aspect : Variable
Mean elevation (masl) : 814 (sample min., max. = 775, 870)
Parent material : Gently undulating moraine
Soil texture : Moderately fine[1]
Drainage : Moderately well (imperfect)
Mean soil reaction (B horizon) : pH 6.3 (sample min., max. = 5.5, 6.5)
Soil classification : Orthic Gray Luvisols (Gleyed, Brunisolic Gray Luvisols)

The Aspen/Buffalo-berry Association occurs throughout the study area on stony (average 17% throughout soil profile), moderately fine textured undulating morainal materials. Most sites were judged to be mesic and mesotrophic (moderately well supplied with water and nutrients, respectively), with slightly acid pHs in the rooting zone.

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[1] Texture classes are taken from the Canadian System of Soil Classification (Canada Soil Survey Committee 1978).

Soils are predominantly moderately well drained Orthic Gray Luvisols, although imperfectly drained Gleyed Gray Luvisols occurred at about 20% of sampled sites. Figure 3.1 shows the range of moisture and nutrient conditions within which communities belonging to this association were observed to occur.

Vegetation

Characteristic Species

Tree Layer	**Populus tremuloides** (d)	Trembling aspen
Shrub Layer	**Salix bebbiana**	Beaked willow
	Shepherdia canadensis (d)	Buffalo-berry
	Rosa acicularis (d)	Prickly rose
	Viburnum edule	Low-bush cranberry
	Amelanchier alnifolia	Saskatoon
Forb Layer	**Linnaea borealis** (d)	Twinflower
	Cornus canadensis (d)	Bunchberry
	Lathyrus ochroleucus	Peavine
	Pyrola asarifolia	Pink wintergreen
	Galium boreale	Northern bedstraw
	Epilobium angustifolium	Fireweed
	Fragaria virginiana	Wild strawberry
	Aster conspicuus	Showy aster
	Vicia americana	Wild vetch
	Vaccinium caespitosum	Dwarf bilberry
	Orthilia secunda	One-sided wintergreen
	Aster ciliolatus	Lindley's aster
	Castilleja miniata	Common red paint brush
	Petasites palmatus	Palmate-leaved coltsfoot
	Maianthemum canadense	Wild lily-of-the valley
	Rubus pubescens	Dewberry
	Mertensia paniculata	Tall mertensia
Grass and Graminoid Layer	**Elymus innovatus**	Hairy wild rye
	Calamagrostis canadensis	Marsh reed grass
Mosses and Lichens on Humus	**Hylocomium splendens**	Stair-step moss
Mosses and Lichens on Trees and Shrubs	No constant species	

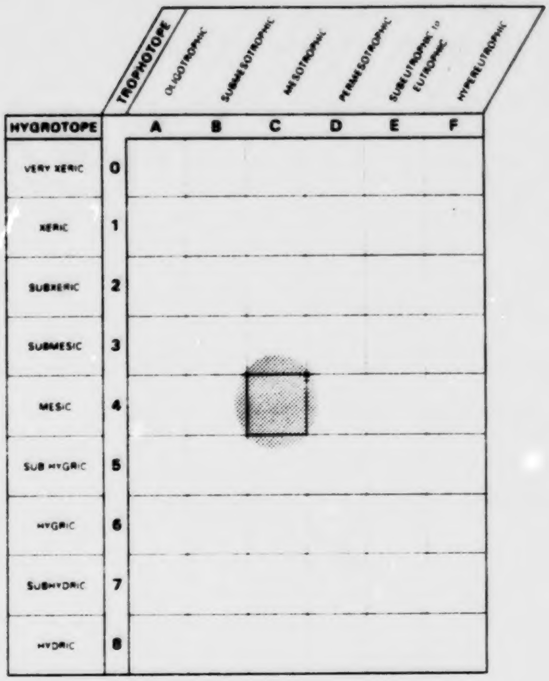

Fig. 3.1. EDATOPIC GRID - ASPEN/BUFFALO-BERRY ASSOCIATION

Stand Characteristics (n = 13)

Mean canopy height : 15.4 (sample min., max. = 11, 21)
Mean stem diameter @ 1.3 m: 16.5 cm (sample min., max. = 10.2, 23.4)
Mean stand age : 71 yr. (sample min., max. = 55, 95)
Mean stem density (total live stems/ha) : 1 624 (sample min., max. = 870, 2 900)
Mean canopy cover : 63% (sample min., max. = 30, 85)

Maturing trembling aspen dominates the tree canopy of the Aspen/Buffalo-berry association. Buffalo-berry is generally dominant in a well developed shrub layer, occurring at the majority of sample sites with higher cover than prickly rose and low-bush cranberry. Twinflower and bunchberry are codominant in a diverse, well-developed forb layer. Other forb species include peavine, pink wintergreen, northern bedstraw, fireweed, strawberry, aster, vetch, dewberry and palmate-leaved coltsfoot. All these species are ubiquitous under aspen and white spruce-aspen stands in the Boreal Mixedwood Ecoregion. Most occur with very low cover.

Hairy wild rye and marsh reed grass are constant species in a sparse grass layer. Stair-step moss is the only constant species of a similarly poorly developed moss and lichen layer.

This association is included within the Aspen/Low-bush cranberry/Dewberry association as defined for the Grande Prairie area Boreal Mixedwood Ecoregion by Archibald et al. (1984, Vol. II).

3.1.2 Aspen/Low-bush cranberry-Rose Association (**Populus tremuloides/Viburnum edule-Rosa acicularis**)

Site and Soil Characteristics

Number of sample sites	30
Moisture regime	Mesic (70% of sample sites); subhygric 30%
Nutrient regime	Mesotrophic
Slope position	Variable
Mean slope	1.8% (sample min., max. = 0, 15)
Aspect	Variable
Mean elevation (masl)	814 (sample min., max. = 775, 870)
Parent material	Gently undulating moraine
Soil texture	Predominantly fine textured
Drainage	Moderately well (70% of sites); imperfect (30% of sites)
Mean soil reaction (B horizon/rooting zone)	pH 6.1 (sample min., max. = 5.5, 7.0)
Soil classification	O.GL (70% of sample sites); GL.GL (30% of sample sites)

The Aspen/Low-bush cranberry-Rose association occurs throughout the study area. It is quite similar to the Aspen/Buffalo-berry association in terms of environmental characteristics. However, sites are on average slightly moister and not quite as well drained. Faint to distinct mottling was observed near or at the surface in over 85% of sampled sites within the Aspen/Low-bush cranberry-Rose association, whereas mottling was noted at only about 30% of sampled sites within the Aspen/Buffalo-berry association. Soil textures are generally finer than those of the Aspen/Buffalo-berry association, and stone content within the upper 1 m averages less than 10% as compared to 17.5 percent for the Aspen/Buffalo-berry association. Finer soil textures and lower stone content may produce impeded drainage conditions for part of the year, resulting in near-surface mottling. Figure 3.2 shows the range of moisture and nutrient conditions within which communities belonging to this association were observed to occur.

Vegetation

Characteristic Species

Tree layer	**Populus tremuloides** (d)	Trembling aspen
Shrub layer	**Salix bebbiana**	Beaked willow
	Rosa acicularis (d)	Prickly rose
	Viburnum edule (d)	Low-bush cranberry
	Shepherdia canadensis	Buffalo-berry
	Amelanchier alnifolia	Saskatoon
	Lonicera involucrata	Bracted honeysuckle
Forb layer	**Cornus canadensis** (d)	Bunchberry
	Lathyrus ochroleucus	Peavine
	Fragaria virginiana	Strawberry
	Galium boreale	Northern bedstraw
	Petasites palmatus	Palmate-leaved coltsfoot

	Rubus pubescens	Dewberry
	Aster ciliolatus	Lindley's aster
	Linnaea borealis (d)	Twinflower
	Epilobium angustifolium	Fireweed
	Aster conspicuus	Showy aster
	Mertensia paniculata	Tall mertensia
	Pyrola asarifolia	Pink wintergreen
	Vicia americana	Wild vetch
Grass and Graminoid Layer	**Calamagrostis canadensis** (d)	Marsh reed grass
	Elymus innovatus	Hairy wild rye
Mosses and Lichens on Humus	**Hylocomium splendens**	Stair-step moss
Mosses and Lichens on Trees and Shrubs	No constant species	

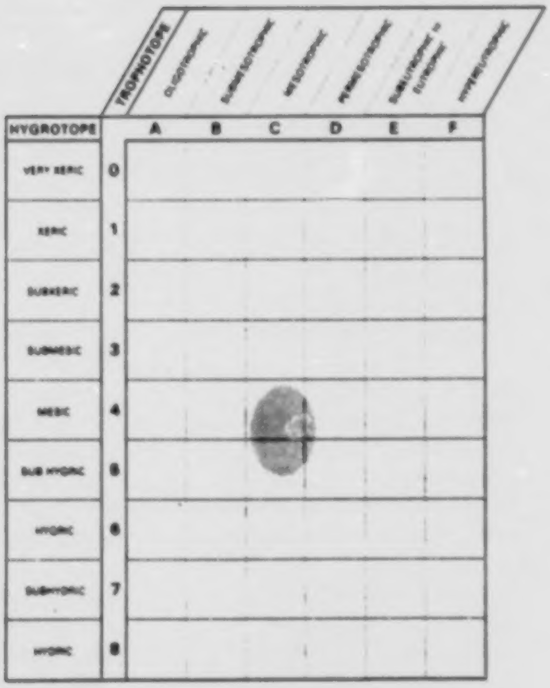

Fig. 3.2. EDATOPIC GRID - ASPEN/LOW-BUSH CRANBERRY-ROSE ASSOCIATION

Stand Characteristics (n = 28)

Mean canopy height : 15.9 m (sample min., max. = 11, 22)
Mean stem diameter @ 1.3 m: 16.6 cm (sample min., max. = 9.7, 30.2)
Mean stand age : 68 yr. (sample min., max. = 36, 98)
Mean stem density (total live stems/ha) : 2 060 (sample min., max. = 600, 3 800)
Mean canopy cover : 65% (sample min., max. = 40, 85)

Maturing stands of trembling aspen characterize the tree layer of the Aspen/Low-bush cranberry-Rose association; balsam poplar was present with significant (>5%) cover at about 50% of sites. Both prickly rose and low-bush cranberry share dominance in a well-developed low shrub layer; rose is generally the most abundant of the two species. Bracted honeysuckle is a constant species in the shrub layer of this association. The forb layer is diverse and well developed with bunchberry and twinflower being the most abundant species. Dewberry and tall mertensia occur more frequently and with slightly higher cover in this association than in the Aspen/Buffalo-berry association. Marsh reed grass and hairy wild rye occur in the grass layer which is better developed in this association than in the Aspen/Buffalo-berry association. Marsh reed grass dominates, occurring with 10% cover on average, and together with balsam poplar, bracted honeysuckle, dewberry and tall mertensia indicate somewhat moister site understories as compared to the Aspen/Buffalo-berry association. The moss and lichen layer is very poorly developed, with stair-step moss as the only constant species.

Assignment of plant communities to the Aspen/Buffalo-berry association or the Aspen/Low-bush cranberry-Rose association may sometimes be difficult to do in the field. If buffalo-berry is present with 20%

cover or more, and honeysuckle, reedgrass, dewberry or tall mertensia are absent or present with very low (<2%) cover, the plant community may be assigned to the Aspen/Buffalo-berry association.

This association is included within the Aspen/Low-bush cranberry/Dewberry association described for the Grande Prairie area Boreal Mixedwood Ecoregion by Archibald et al. (1984, Vol. II).

3.1.3 Aspen/Alder Association
(**Populus tremuloides/Alnus crispa**)

Site and Soil Characteristics

Number of sample sites : 6
Moisture regime : Mesic (subhygric)
Nutrient regime : Mesotrophic
Slope position : Generally on upper slope positions
Mean slope : 2.8% (sample min., max. = 0, 7)
Aspect : : Variable
Mean elevation (masl) : 846 (sample min., max. = 820, 885)
Parent material : Gently undulating moraine, morainal veneers and blankets over bedrock, glaciofluvial veneers and blankets
Soil texture : Medium to coarse (surface 20 cm); moderately fine (below approx. 20 cm)
Drainage : Moderately well (imperfect)
Mean soil reaction (B horizon/rooting zone): pH 6.3 (sample min., max. = 5.5, 7.5)
Soil classification : Orthic Gray Luvisols

The Aspen/Alder association occurs throughout the study area, and is similar to the Aspen/Low-bush cranberry-Rose association with respect to environmental conditions. Slightly stony (average 5% stones in profile), moderately well drained Orthic Gray Luvisols with relatively coarse textured but thin upper horizons underlain by moderately fine textured clay loams are characteristic. Moderately moist conditions prevail in the upper soil horizon. Sites belonging to this association were often noted on upper slope positions where bedrock may be close to the surface. Both bedrock and finer textured parent materials probably restrict percolation of water; hence, the moisture supply is likely to be better as rainwater and snowmelt water are held for longer periods of time within the rooting zone. Nutrients might also collect at the interface between coarse and fine-textured materials. Figure 3.3 shows the range of moisture and nutrient conditions within which sites belonging to this association were observed to occur.

Vegetation

Characteristic Species

Tree Layer	**Populus tremuloides** (d)	Trembling aspen
Shrub Layer	**Alnus crispa** (d)	Green alder
	Spirea betulifolia	White meadowsweet
	Viburnum edule	Low-bush cranberry
	Rosa acicularis	Prickly rose
	Lonicera involucrata	Bracted honeysuckle
Forb Layer	**Cornus canadensis** (d)	Bunchberry
	Linnaea borealis	Twinflower
	Aster conspicuus	Showy aster
	Epilobium angustifolium	Fireweed
	Pyrola asarifolia	Pink wintergreen
	Rubus pubescens	Dewberry
	Lathyrus ochroleucus	Peavine
	Fragaria virginiana	Strawberry
	Petasites palmatus	Palmate-leaved coltsfoot
	Maianthemum canadense	Wild lily-of-the-valley
	Aralia nudicaulis	Wild sarsaparilla
	Mertensia paniculata	Tall mertensia
	Orthilia secunda	One-sided wintergreen
Grass and Graminoid Species	**Calamagrostis canadensis**	Marsh reed grass
Mosses and Lichens on Humus	**Hylocomium splendens**	Stair-step moss
Mosses and Lichens on Trees and shrubs	No constant species	

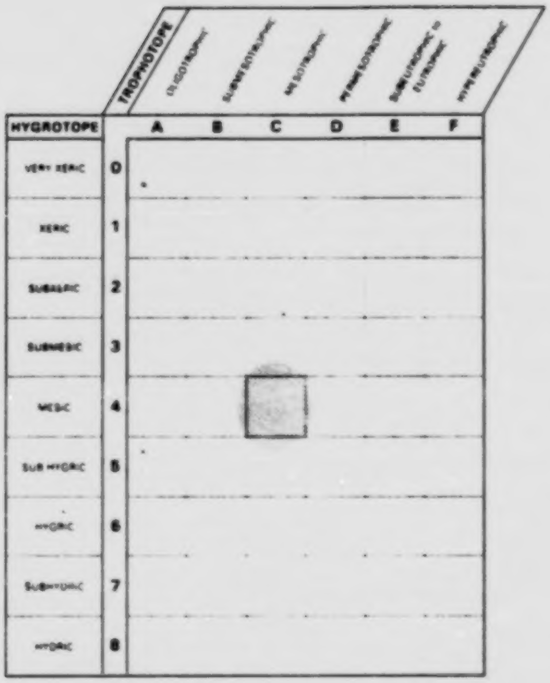

Fig. 3.3. EDATOPIC GRID - ASPEN/ALDER ASSOCIATION

Stand Characteristics

Mean canopy height : 17.3 m (sample min., max. = 14, 20)
Mean stem diameter @ 1.3 m: 17.2 cm (sample min., max. = 13.6, 19.0)
Mean stand age : 75 yr. (sample min., max. = 48, 105)
Mean stem density (total live stems/ha) : 1 740 (sample min., max. = 1 150, 2 500)
Mean canopy cover : 70% (sample min., max. = 50, 90)

Mature stands of trembling aspen with a closed canopy and a tall shrub understory dominated by green alder characterize this association. White meadowsweet is dominant in the low shrub layer along with green alder. Bunchberry is the most abundant forb of a diverse, continuous forb layer. Grass cover is sparse, with marsh reed grass the only constant species. Similarily, the moss layer is poorly developed and stair-step moss is the only constant species.

This association is most similar to the Aspen/Thimbleberry/Sarsaparilla association described for the Grande Prairie area Boreal Mixedwood Ecoregion by Archibald et al. (1984, Vol. II). The importance of the near-surface fine textured or bedrock layers in restricting the percolation of rainwater and snowmelt water away from the rooting zone is also mentioned in that report.

3.1.4 Aspen-Balsam poplar/Bracted honeysuckle Association (**Populus tremuloides-P. balsamifera/Lonicera involucrata**)

Site and Soil Characteristics

Number of sample sites 2
Moisture regime : Subhygric
Nutrient regime : Mesotrophic
Slope position : Plain (low-lying mineral soils)
Mean slope : 0
Aspect :
Mean elevation (masl) : 830 (sample min., max. = 790, 870)
Parent material : Gently undulating moraine
Soil texture : Fine
Drainage : Imperfect
Mean soil reaction
(B horizon/rooting zone): pH 6.5 (sample min., max. = 6, 7)
Soil classification : Gleyed Gray Luvisol

The Aspen-Balsam poplar/Honeysuckle association is apparently not as widespread in the study area as the association discussed previously. It occurs on moist, level to very gently sloping, fine-textured morainal materials which are very low in stone content (average 2.5% in soil profile). Gleyed Gray Luvisolic soils with slightly acid to slightly alkaline soil reaction are typical.[2]

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[2] Although the sample size is very small, environmental and floristic characteristics derived from sample sites are comparable to those described by Archibald et al. (1984) for the same association in this area, based on a larger sample size of 12 sites.

Figure 3.4 shows the range of moisture and nutrient conditions within which sites belonging to this association are expected to occur, with reference to Archibald et al. (1984).

Vegetation

Characteristic Species

Tree Layer	**Populus tremuloides** (d)	Trembling aspen
	P. balsamifera (d)	Balsam poplar
Shrub Layer	**Salix bebbiana**	Beaked willow
	Rosa acicularis* (d)	Prickly rose
	(Lonicera involucrata)* (d)	Bracted honeysuckle
	(Viburnum edule)*	Low-bush cranberry
	(Cornus stonifera)*	Red-osier dogwood
Forb Layer	**Epilobium angustifolium**	Fireweed
	Mertensia paniculata	Tall mertensia
	Rubus pubescens*	Dewberry
	Cornus canadensis*	Bunchberry
	Delphinium glaucum	Tall larkspur
	Actaea rubra	Baneberry
	(Aralia nudicaulis)*	Sarsaparilla
	Numerous other forb spp. occurring with low cover	
Grass Layer	**Calamagrostis canadensis**	Marsh reed grass
Mosses and Lichens on Humus	**Brachythecium compestre**	**Brachythecium** moss

Stand Characteristics (n = 2)

Mean canopy height : 16.4 m (sample min., max. = 16, 17)
Mean stem diameter @ 1.3 m: 20.8 cm (sample min., max. = 19.0, 22.5)
Mean stand age : 67 yr. (sample min., max. = 60, 73)
Mean stem density (total line stems/ha) : 1 525 (sample min., max. = 1 050, 2 000)
Mean canopy cover : 70% (sample min., max. = 60, 80)

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* Recorded as important species for this association in Archibald et al. (1984). Species in parenthesis are not "constant" within the two sites sampled for the Grande Prairie County West Study, but are considered to be typical of this association.

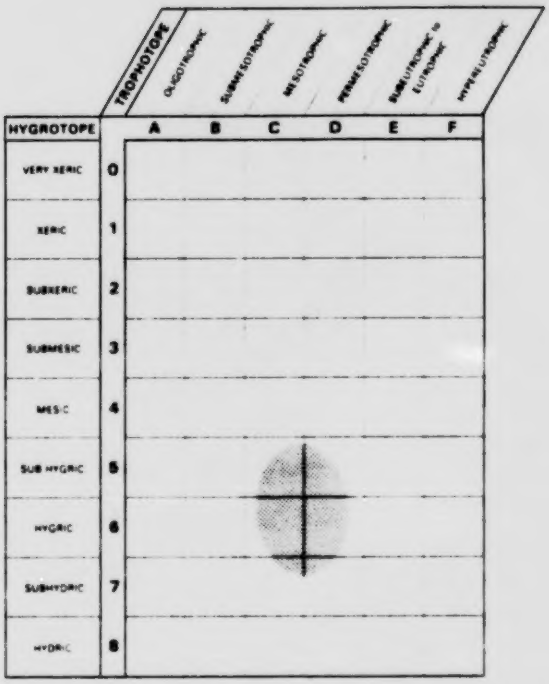

Fig. 3.4. EDATOPIC GRID - ASPEN-BALSAM POPLAR/HONEYSUCKLE ASSOCIATION (after Archibald et al., 1984, Vol. II, Fig. 150)

Well stocked stands of codominant aspen and balsam poplar characterize the tree layer of this association. Bracted honeysuckle, red-osier dogwood and prickly rose dominate a vigorous shrub layer, while numerous forbs occur within a continuous forb layer. Marsh reed grass dominates a poorly developed grass layer and brachythecium moss is constant with low cover on humus. The occurrence of balsam poplar, honeysuckle and red-osier dogwood with high cover and the presence of tall larkspur and baneberry reflect relatively moist and nutrient-rich site conditions.

3.1.5 Balsam Poplar/Red-Osier Dogwood-Alder Association (**Populus balsamifera/Cornus stolonifera-Alnus**)

Number of sample sites : 1
Moisture regime : Mesic
Nutrient regime : Permesotrophic
Slope position : Upper slope
Slope : 2
Aspect : NE
Elevation (masl) : 820
Parent material : Gently undulating moraine
Soil texture : Coarse-textured surface horizons, moderately fine textured deeper horizons
Drainage : Moderately Well
Mean soil reaction (B horizon/rooting zone): pH 7
Soil classification : Orthic Gray Luvisol

This association appears to occur infrequently within the Grande Prairie County West study aea. Environmental conditions at the single site sampled are different in comparison with other associations within the Boreal Mixedwood Ecoregion having similar floristic composition. Regosolic, coarse textured soils of fluvial origin are characteristically associated with balsam poplar dominated communities, but the sample site within the study area has a Luvisolic, moderately fine textured soil of morainal origin with a moderately coarse-textured surface horizon. The occurrence of similar vegetation may mean that these site types are ecologically similar, or it may simply be a consequence of unusual historical events; further investigation is necessary.

Vegetation

Important Species[3]

Tree Layer	**Populus balsamifera** (d)	Balsam poplar
Shrub Layer	**Alnus crispa** (d)	Green alder
	Cornus stolonifera (d)	Red-osier dogwood
	Viburnum edule	Low-bush cranberry
	Lonicera involucrata	Bracted honeysuckle
Forb Layer	**Aralia nudicaulis**	Sarsaparilla
	Epilobium angustifolium	Fireweed

Stand Characteristics

Canopy height : 24 m
Stem diameter @ 1.3 m : 28.5 cm
Stand age : 94 yr.
Stem density (total live stems/ha) : 600
Canopy cover : 50%

Open, maturing stands of balsam poplar characterize the tree layer of the single sampled stand within this association. Red-osier dogwood and alder are dominant in a well-developed shrub layer. The forb layers is poorly developed, with no dominant species. Grasses and mosses are absent. This association was not described in Archibald et al. (1984) for the Grande Prairie area Boreal Mixedwood Ecoregion.

3.1.6 Discussion: Deciduous Forest Associations

The deciduous forest association of the Grande Prairie County West study area are primarily of fire origin. Most stands are mature

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[3] Because of the sample size (n = 1), further sampling is necessary to define what species would be characteristic of the Balsam poplar/Red-osier dogwood-Alder association in this area of the province. The abovementioned species appear to be important components of this association, and are comparable to those of other similarly named types cited in other studies of northern Alberta vegetation (Brierley et al. 1985; Kocaoglu and Bennett 1983; Bishoff (revised 1984).

(60-70 years old), indicating that extensive burning has not recently occurred across the study area. Barring fire or other disturbances, these stands will proceed toward a white spruce climax. However, if fire occurs, provided that it is not intense enough to destroy aspen roots, or conditions permit the germination of aspen seed, recolonization of burned areas by aspen is likely to be rapid. Subsequent development of the understory depends upon several factors: the survival and successful growth of plant propagules in the soil of the burned area; ingress and successful germination and growth of seeds, spores, etc. from adjacent land; existing environmental conditions; and the density of aspen regeneration.

Deciduous forest associations within the study area may be placed into one of two groups. The first group is characterized by moderately moist (mesic) sites that are moderately well supplied with nutrients (mesotrophic), and includes the Aspen/Buffalo-berry association, the Aspen/Low-bush cranberry-Rose association and the Aspen/Alder association. The latter two associations tend to occur more often on somewhat moister sites as indicated by both site characteristics (mottling, texture, drainage) and vegetation characteristics (species frequency and cover). Somewhat higher average productivity values for aspen in the latter two associations (Section 4 of this report) are also indicative of site differences. The primary criterion for separating the first two associations is, however, the relative proportion of buffalo-berry to low-bush cranberry and rose, which are all constant species in both. Further studies may clarify the ecological significance of these proportional differences, but a clear separation of these associations on environmental and floristic grounds has to date been difficult to make (refer to O'Leary et al. 1986; Brierley et al. 1985). Archibald et al. (1984, Vol. II) did not recognize these two associations, but elements of both are included within the Aspen/Low-bush cranberry/Dewberry association of their report. The Aspen/Alder association is not as difficult to delineate; alder is either present in significant amounts or absent, and sites are usually in upper slope positions, and/or where materials are coarse at the surface and finer at depth.

The second group of associations occurs on moist to very moist (mesic-hygric) relatively nutrient-rich (permesotrophic) sites and includes the Aspen-Balsam poplar/Honeysuckle and Balsam poplar/Red osier dogwood-Alder associations.

Succession to white spruce-dominated communities from deciduous-dominated stands is likely to occur in the absence of fire or other disturbances, but at a slow rate. White spruce was sporadically present under deciduous stands. These trees tend to be widely scattered and are usually not mature enough to produce seed. There may be several reasons for poor white spruce regeneration:

1. Distance from seed source, which is generally regarded as a highly important determinant of natural regeneration.

2. Recurring fires which encourage aspen suckering but destroy white spruce seedlings.

3. Smothering of white spruce seedlings by litter.

4. Edaphic conditions (such as a thick litter layer which dries before the root radicle can reach mineral soil, or compact mineral surface horizons which retard root penetration and dry rapidly).
5. Competition for light, water and nutrients from other understory plants, which has been implicated in almost every study of white spruce regeneration as a major factor in regeneration success (Dobbs 1972).

3.2 Coniferous Forest Association

Conifer-dominated forests are relatively uncommon in the Grande Prairie County West study area, occurring mainly as scattered islands in level and depressional areas in the southernmost portion where the Beaverlodge Plain and Pinto Plain physiographic districts meet. One white spruce-aspen, one white spruce and three lodgepole pine associations are described below. The white spruce and white spruce-aspen associations are described using data from seven sample sites within the study area and with reference to work presented by Archibald et al. (1984, Vol. II). The three lodgepole pine associations, which are more or less restricted to the southernmost portion of the study area, are described entirely on the basis of information presented by Archibald et al. (1984, Vol. II), as no sample data was collected during the Grande Prairie County West study for these associations.

3.2.1 White spruce-Aspen/Low-bush cranberry-Rose Association **(Picea glauca-Populus tremuloides/Viburnum edule-Rosa acicularis)**

Site and Soil Characteristics

Number of sample sites : 4
Moisture regime : Subhygric
Nutrient regime : Mesotrophic
Slope position : Variable
Mean slope : 2.3% (sample min., max. = 0, 5)
Aspect : Variable
Mean elevation (masl) : 820 (sample min., max. = 810, 825)
Parent material : Gently undulating moraine
Soil texture : Fine textured
Drainage : Moderately well (imperfect)
Mean soil reaction (B horizon/rooting zone): pH 6.1 (sample min., max. = 4.5, 8.0)
Soil classification : Orthic Gray Luvisol (Gleyed Gray Luvisol)

This association occurs sporadically throughout the study area on slightly stony, fine textured morainal materials. Soils are predominantly moderately well drained Orthic Gray Luvisols, and sites were judged to be moderately well supplied with moisture and nutrients. Figure 3.5 shows the range of moisture and nutrient conditions within which communities belonging to this association were observed to occur, based on data from this study and Archibald et al. (1984, Vol. II).

Vegetation

Characteristic Species

Tree Layer	**Picea glauca** (d)	White spruce
	Populus tremuloides (d)	Trembling aspen
Shrub Layer	**Viburnum edule** (d)	Low-bush cranberry
	Rosa acicularis (d)	Prickly rose
	Picea glauca	White spruce
Forb Layer	**Cornus canadensis** (d)	Bunchberry
	Rubus pubescens (d)	Dewberry

	Linnaea borealis	Twinflower
	Lathyrus ochroleucus	Peavine
	Pyrola asarifolia	Pink wintergreen
	Petasites palmatus	Palmate-leaved coltsfoot
	Epilobium angustifolium	Fireweed
	Galium boreale	Northern bedstraw
	Mertensia paniculata	Tall mertensia
	Mitella nuda	Bishops-cap
Grass Layer	No constant species	
Mosses and Lichens on Humus	**Hylocomium splendens**	Stair-step moss
Mosses and Lichens on Trees and Shrubs	No constant species	

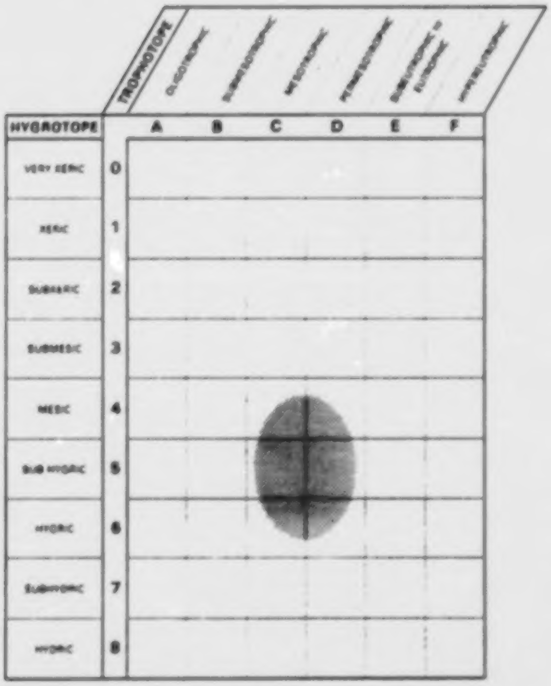

Fig. 3.5. EDATOPIC GRID: WHITE SPRUCE-ASPEN/LOW-BUSH CRANBERRY-ROSE ASSOCIATION

Stand Characteristics (n = 4)

Mean canopy height : 19 (sample min., max. = 17, 22)
Mean stem diameter @ 1.3 m: 22.2 cm (sample min., max. = 17.0, 26.0)
Mean stand age : 107 (sample min., max. = 88, 128)
Mean stem density (total live stems/ha) : 1 145 (sample min., max. = 1 000, 1 250)
Mean canopy cover : 74 (sample min., max. = 70, 85)

Tall, overmature aspen and maturing white spruce co-dominate in well-stocked stands typical of this association. The shrub layer is nearly continuous, with low-bush cranberry and prickly rose as dominant species. White spruce is consistently present with low cover in the shrub layer. Bracted honeysuckle, although not a constant species, is locally abundant on moist sites. The forb layer is well developed particularly on moist sites, and bunchberry and dewberry are dominant species in this layer, with bishop's cap, tall mertensia, baneberry, and kidney-leaved violet frequently occurring. Stair-step moss generally dominates a highly variable moss layer.

The White spruce-Aspen/Low-bush cranberry-Rose association is a younger stage of the White spruce/Bracted honeysuckle/Dewberry association described for the Grande Prairie area Boreal Mixedwood Ecoregion by Archibald et al. (1984, Vol. II). The latter association occurs on similar sites with a similar suite of plant species, but on average, stands are older, shrub and forb cover is lower and moss cover is higher.

3.2.2 White spruce/Bracted honeysuckle/Dewberry Association (**Picea glauca/Lonicera involucrata/Rubus pubescens**)

Site and Soil Characteristics

Number of sample sites	:	1
Moisture regime	:	Subhygric
Nutrient regime	:	Mesotrophic
Slope position	:	Plain
Slope	:	3%
Aspect	:	NNE
Elevation (masl)	:	
Parent material	:	Gently undulating moraine
Soil texture	:	Fine
Drainage	:	Imperfect
Soil reaction (B horizon/ rooting zone)	:	pH 7.0
Soil classification	:	Gleyed Gray Luvisol

Communities belonging to this association are scattered throughout the Grande Prairie County West study area, usually as small stands surrounded by aspen communities. Environmental conditions reported for the single sampled site lie within the range of those reported for the identical association described by Archibald et al. (1984, Vol. II) for the Grande Prairie area Boreal Mixedwood Ecoregion. Figure 3.6 shows the range of moisture and nutrient conditions within which communities belonging to this association were observed to occur based on data from this study and Archibald et al. (1984, Vol. II).

Vegetation

Important Species[4]

Tree Layer	**Picea glauca** (d)	White spruce
	Populus tremuloides	Trembling aspen

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[4] Identified as characteristic by Archibald et al. (1984, Vol. II) based on five sample sites.

Shrub Layer	**Lonicera involucrata**	Bracted honeysuckle
	Viburnum edule	Low-bush cranberry
	Rosa acicularis	Prickly rose
Forb Layer	**Cornus canadensis**	Bunchberry
	Rubus pubescens	Dewberry
	Mitella nuda	Bishop's cap
	Linnaea borealis	Twinflower
Mosses and Lichens on Humus	**Hylocomium splendens**	Stair-step moss
	Pleurozium schreberi	Schreber's moss
	Ptilium crista-castrensis	Knight's plume moss

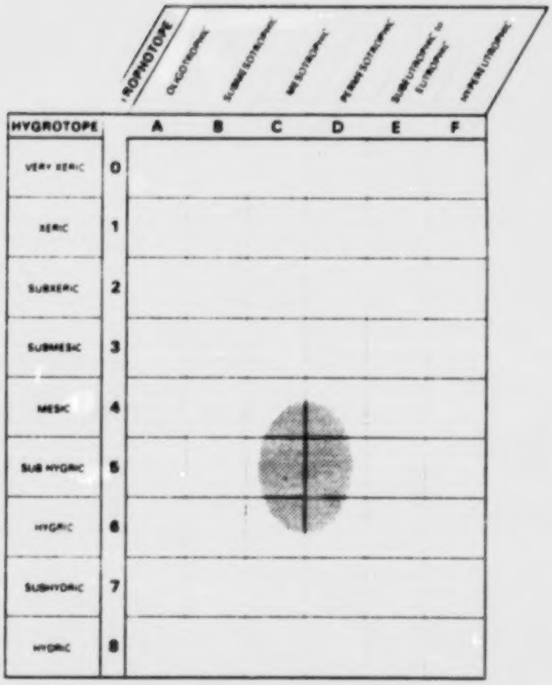

Fig. 3.6. EDATOPIC GRID: WHITE SPRUCE/BRACTED HONEYSUCKLE/DEWBERRY ASSOCIATION

Stand Characteristics (n = 1)

Canopy height : 16 m
Stem diameter @ 1.3 m: 21.2 cm
Stand age : 103 yr.
Stem density (total live stems/ha) : 1 300
Canopy cover : 65%

Tall maturing stands of white spruce characterize the tree layer of this association; aspen, balsam poplar and birch may also occur sporadically in the overstory. The shrub, forb and grass layers are all discontinuous. The moss layer is well developed, forming a nearly continuous carpet. Bracted honeysuckle, dewberry and bishop's cap are indicative of moist site conditions.

3.2.3 Lodgepole pine/Low-bush cranberry/Sarsaparilla Association (**Pinus contorta/Viburnum edule/Aralis nudicaulis**)

Site and Soil Conditions (Source: Archibald et al. 1984, Vol. II, pp. 19-20)

Number of sample sites : 3
Moisture regime : Mesic to submesic
Nutrient regime : Submesotrophic to mesotrophic
Slope position : Mid-slope
Mean slope : 8.7% (sample min., max. = 4, 12)
Aspect : Northerly
Mean elevation (masl) : 800 (sample min., max. = 780, 820)
Parent material : Eolian, fluvial
Soil texture : Moderatley fine to coarse
Drainage : Well
Mean soil reaction (B horizon/ rooting zone) : pH 6.3 (sample min., max. = 6, 7)
Soil classification : Eluviated Eutric Brunisols, Brunisolic Gray Luvisols

This association occurs in the southernmost portion of the Grande Prairie County West study area. Well drained eolian veneers over glaciofluvial deposits, or fluvial deposits, constitute the parent materials. Because of generally northerly aspects and parent materials with textures fine enough to provide some water holding capacity, these sites are judged to be moderately well supplied with water from precipitation and probably also from seepage, as sites supporting this association occur in mid-slope positions. Figure 3.7 shows the range of moisture and nutrient conditions within which communities belonging to this association were observed to occur. Individual site data are presented in Archibald et al. 1984, Vol. II, Appendix D.

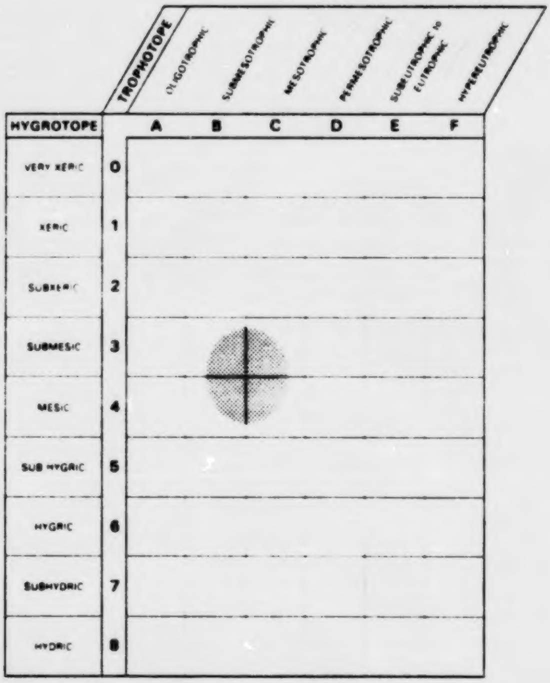

Fig. 3.7. EDATOPIC GRID: LODGEPOLE PINE/LOW-BUSH CRANBERRY/ SARSAPARILLA ASSOCIATION (after Archibald et al. 1984, Vol. II, Figure 150)

Vegetation

Characteristic Species

Tree Layer	**Pinus contorta**	Lodgepole pine
Shrub Layer	**Viburnum edule**	Low-bush cranberry
	Rosa acicularis	Prickly rose
	Spiraea betulifolia	White meadowsweet
	Picea glauca	White spruce
Forb Layer	**Aralia nudicaulis**	Sarsaparilla
	Cornus canadensis	Bunchberry
	Linnaea borealis	Twinflower
	Maianthemum canadense	Two-leaved Solomon's seal
	Pyrola asarifolia	Pink wintergreen
	Galium triflorum	Sweet-scented bedstraw
	Viola renifolia	Kidney-leaved violet
Mosses and Lichens on Humus	**Pleurozium schreberi**	Schreber's moss
	Hylocomium splendens	Stair-step moss
	Ptilium crista-castrensis	Knight's plume moss

Stand Characteristics (n = 3)

Mean canopy height : 23 m (sample min., max. = 20, 27)
Mean stem diameter @ 1.3 m: No data
Mean stand age : 85 (sample min., max. = 80, 89)
Mean stem density (total live stems/ha) : No data
Mean canopy cover : 48% (sample min., max. = 40, 60)

Tall, well-stocked stands of lodgepole pine characterize the tree stratum of the Lodgepole pine/Low-bush cranberry/Sarsaparilla association. Both trembling aspen and white spruce are common overstory species occurring with low cover. The latter species is often present in both the tree and shrub strata indicating succession toward white spruce dominated stands. The shrub layer is dominated by low-bush cranberry, prickly rose and white meadowsweet and occurs with moderate cover (15-30%); the forb layer is slightly heavier and is composed of a number of species; the dominant species being sarsaparilla. Grass cover is essentially absent, and moss cover tends to be patchy. Archibald et al. (1984, Vol. II, p. 21) consider this association to be transitional between aspen and pine associations in the Boreal Mixedwood, with understory species composition more similar to that of aspen associations than lodgepole pine associations. The shift to lodgepole pine-dominated overstories in the extreme southwest of the Grande Prairie County West study area suggests also a transition from the Boreal Mixedwood Ecoregion to the Boreal Foothills Ecoregion as defined by Archibald et al. (1984, Vol. II, p. 7).

3.2.4 Lodgepole pine/Feathermoss Association
(**Pinus contorta/Pleurozium schreberi**)

Site and Soil Characteristics (Source: Archibald et al. 1984, Vol. II, pp. 18-19)

Number of sample sites : 7
Moisture regime : Subxeric to submesic
Nutrient regime : Submesotrophic to mesotrophic
Slope position :
Mean slope : 0
Aspect :
Mean elevation (masl) : 820 (sample min., max. = 805, 845)
Parent material : Glaciofluvial, fluvial, eolian
Soil texture : Coarse to moderately fine
Drainage : Well to rapid
Mean soil reaction (B horizon): pH 6.1 (sample min., max. = 5.0, 7.0)
Soil classification : Eluviated Eutric Brunisols, Podzolic and Brunisolic Gray Luvisols

This association occurs to a significant extent in the southwestern corner of the Grande Prairie County West study area within the Pinto Plain physiographic district (Fig. 4, Vol. I). Coarse textured materials and dry, nutrient poor site conditions predominate, but finer textured materials, with higher water and nutrient holding capacity also support stands belonging to this association. Figure 3.8

shows the range of soil moisture and nutrient conditions within which communities belonging to this association were observed to occur. Individual site data are presented in Archibald et al. 1984, Vol. II, Appendix D.

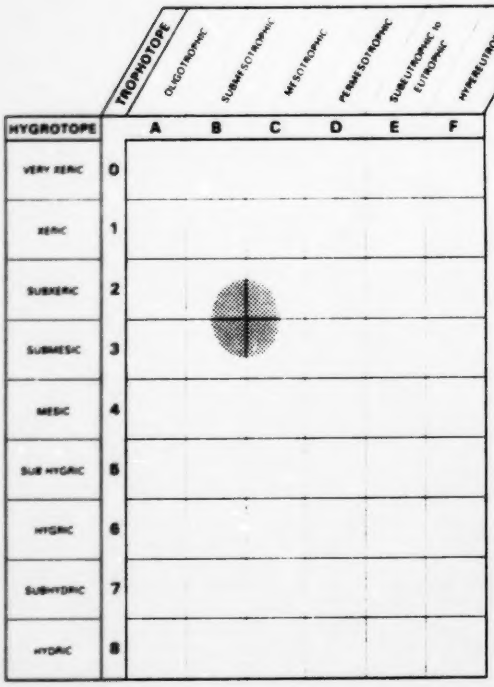

Fig. 3.8. EDATOPIC GRID: LODGEPOLE PINE/FEATHERMOSS ASSOCIATION (after Archibald et al. 1984, Vol. II, Figure 150).

Vegetation

Characteristic Species

Tree Layer	**Pinus contorta**	Lodgepole pine
Shrub Layer	**Vaccinium myrtilloides**	Blueberry
	Rosa acicularis	Prickly rose
	Ledum groenlandicum	Labrador tea
Forb Layer	**Linnaea borealis**	Twinflower
	Cornus canadensis	Bunchberry
	Vaccinium vitis-idaea	Bog cranberry
Grass and Graminoid Layer	**Elymus innovatus**	Hairy wild rye
Mosses and Lichens on Humus	**Pleurozium schreberi**	Schreber's moss
	Hylocomium splendens	Stair step moss
	Ptilium crista-castrensis	Knight's plume moss
	Peltigera aphthosa	Studded-leather lichen

Stand Characteristics (n = 7)

Mean canopy height : 17.9 m (sample min., max. = 14, 23)
Mean stem diameter @ 1.3 m: No data
Mean stand age (n = 5) : 78
Mean stem density (total live stems/ha) : No data
Mean canopy cover : 39% (sample min., max. = 25, 50)

Relatively open young stands of lodgepole pine with the occasional trembling aspen, white spruce or black spruce characterize the tree canopy of the Lodgepole pine/Feathermoss association. Black spruce commonly occurs in the understory, indicating that succession to pine-black spruce or black spruce-dominated communities is likely in the absence of fire. Ericaceous species (**Ledum, Vaccinium**) dominate a variable shrub layer (cover values range from 10-70%), and buffalo-berry although not constant may be locally dominant at some sites. Both the forb and grass layers have low species diversity and cover. Feathermosses dominate a generally well-developed moss layer. Species composition reflects dry site conditions and acidic surface soil horizons.

3.2.5 Black spruce-Lodgepole pine/Labrador tea/Feathermoss Association **(Picea mariana-Pinus contorta/Ledum groenlandicum/Pleurozium schreberi)**

Site and Soil Characteristics (Source: Archibald et al. 1984, Vol. II, pp. 21-22)

Number of sample sites : 7
Moisture regime : Subhygric
Nutrient regime : Submesotrophic
Slope position : Lower slope positions
Mean slope : 1.4% (sample min., max. = 0, 5)
Aspect : Variable
Mean elevation (masl) : 808 (sample min., max. = 735, 850)
Parent material : Glaciofluvial, eolian, moraine
Soil texture : Fine to coarse
Drainage : Moderately well to imperfect
Mean soil reaction (B horizon): pH 6.4 (sample min., max. = 5.0, 8.0)
Soil classification : Gleyed Brunisolic Gray Luvisols, Gleyed Eutric Brunisols, Gleyed Gray Luvisols, Orthic Luvic Gleysols, Brunisolic Gray Luvisols

This association, like the previous two associations, occurs in the extreme southwestern corner of the Grande Prairie County West study area within the Pinto Plain physiographic district. Fine textured lower soil horizons impede drainage and sites are usually found in lower slope positions adjacent to wet depressions. Consequently, imperfectly drained, subhygric conditions prevail and soils are generally Gleysols or gleyed phases of Luvisols. Figure 3.9 shows the range of moisture and nutrient conditions within which sites belonging to this association were observed to occur. Individual site data are presented in Archibald et al. 1984, Vol. II, Appendix D.

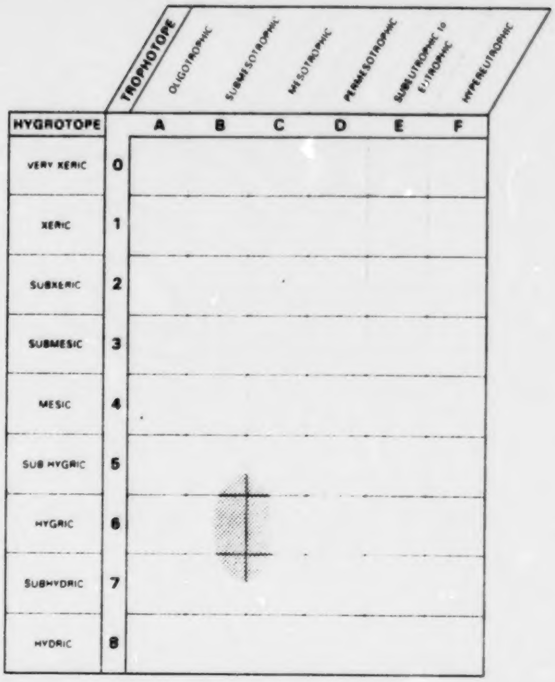

Fig. 3.9. EDATOPIC GRID BLACK SPRUCE-LODGEPOLE PINE/LABRADOR TEA/ FEATHERMOSS ASSOCIATION (after Archibald et al. 1984, Vol. II, Figure 150)

Vegetation

Characteristic Species

Tree Layer	**Picea mariana**	Black spruce
	Pinus contorta	Lodgepole pine
Shrub Layer	**Ledum groenlandicum**	Labrador tea
	Picea mariana	Black spruce
	Vaccinium myrtilloides	Blueberry
	Rosa acicularis	Prickly rose
	Lonicera involucrata	Bracted honeysuckle
Forb Layer	**Cornus canadensis**	Bunchberry
	Linnaea borealis	Twinflower
	Vaccinium vitis-idaea	Bog cranberry

Mosses and Lichens on Humus	**Pleurozium schreberi**	Schreber's moss
	Hylocomium splendens	Stair-step moss
	Ptilium crista-castrensis	Knights plume moss

Stand Characteristics (n = 7)

Mean canopy height : 18.0 m (sample min., max. = 13, 22)
Mean stem diameter @ 1.3 m: No data
Mean stand age : 76 yr. (sample min., max. = 45, 87)
Mean stem density (total live stems/ha) : No data
Mean canopy cover : 46% (sample min., max. = 15, 60%)

Moderately well stocked, relatively young stands of black spruce and lodgepole pine characterize the tree layer of this association. Shrub cover is variable (5-60% cover) with labrador tea as the most abundant constant species, black spruce regeneration is common. The forb layer is usually poorly developed with no dominant forb species, although bunchberry, twinflower and bog cranberry are constant with low cover. Grass cover is sparse, and hairy wild rye is the most commonly occurring species. Feathermosses form a continuous carpet in the moss layer. The shrub and forb species characteristic of this association are typically found on acidic, moist sites.

3.2.6 Discussion: Coniferous Forest Associations

White spruce-dominated associations of the Grande Prairie County West study area occur throughout the area but are not as extensive as deciduous forest associations. They occur on sites which are moist and moderately well supplied with nutrients. Because fire frequency is lower on moist sites, stands belonging to these associations are on average the oldest and most successionally advanced. As stands mature and white spruce becomes more dominant, canopy closure increases, light penetration to the understory strata decreases and there is a corresponding reduction in shrub, forb and grass cover relative to early seral deciduous stands with similar floristic composition.

Lodgepole pine dominated associations are significant only in the extreme southwest portion of the study area, and span a broad gradient of moisture conditions. The Lodgepole pine/Feathermoss association occurs on dry, well drained parent materials. The Lodgepole pine/Low-bush cranberry/Sarsaparilla association is found on moderately moist, well drained parent materials and may represent a transitional stage between Boreal Mixedwood and Boreal Foothills vegetation. The Black spruce-Lodgepole pine/Labrador tea/Feathermoss association occurs on very moist, generally imperfectly drained sites on lower slope positions. Tree composition and understory vegetation reflect moisture status within these associations.

3.3 Wetland Associations

Wetlands occur throughout the study area on level areas or in depressions. Black spruce-dominated communities are prevalent, but willow and dwarf birch shrublands are significant features of some landscapes. Three wetland associations are described below based on site data collected for the Grande Prairie County West study area and information presented elsewhere (Resource Evaluation Branch 1986, Berland Integrated Inventory and Evaluations).

3.3.1 Black spruce/Labrador tea/Sphagnum moss Association (**Picea mariana/Ledum groenlandicum/Sphagnum spp.**

Site and Soil Characteristics

Number of sample sites	: 2
Moisture regime	: Hydric-subhydric
Nutrient regime	: Submesotrophic
Slope position	: Depressions, level areas
Mean slope	: 0%
Aspect	:
Mean elevation (masl)	: 800
Parent material	: Organic, organic veneer over glaciolacustrine
Soil texture	: Fine (glaciolacustrine); mesic (organic)
Drainage	: Very poor
Mean soil reaction (rooting zone)	: pH 4.0
Soil classification	: Terric Mesisol, Mesic Fibrisol

This association occurs on wet, acidic sites throughout the study area. Drainage is very poor and water is very near the soil surface. Figure 3.10 shows the range of soil moisture and nutrient conditions within which communities belonging to this association were observed to occur.

Vegetation

Characteristic Species

Tree Layer	**Picea mariana** (d)	Black spruce
Shrub Layer	**Picea mariana** (d) **Ledum groenlandicum** (d)	Black spruce Labrador tea
Forb Layer	**Vaccinium vitis-idaea** **Rubus chamaemorus** **Oxycoccus microcarpus**	Bog cranberry Cloudberry Small bog cranberry
Grass and Graminoid Layer	No constant species	
Mosses and Lichens on Organic	**Sphagnum fuscum** (d) **Cladina mitis** (d)	Sphagnum moss Reindeer lichen

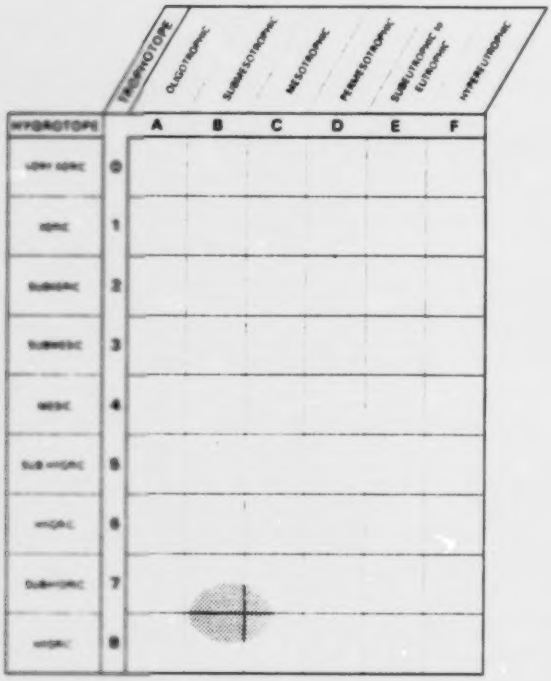

Fig. 3.10. EDATOPIC GRID: BLACK SPRUCE/LABRADOR TEA/SPHAGNUM MOSS ASSOCIATION

Stand Characteristics

Mean canopy height : 6 m (sample min., max. = 6, 6)
Mean stem diameter @ 1.3 m: 9.2 cm (sample min., max. = 8.5, 9.9)
Mean stand age : 74 yr. (sample min., max. = 70, 79)
Mean stem density (total live stems/ha) : 450 (sample min., max. = 75, 830)
Mean canopy cover : 10% (sample min., max. = 5, 15)

Open, stunted black spruce stands having an extremely species-poor vascular plant understory are characteristic of this association. Labrador tea and black spruce are the only species of a well developed shrub layer. The forb layer is sparse, the moss layer is variable and dominated by sphagnum moss, and the lichen layer is well developed and dominated by reindeer lichen. This association is somewhat comparable to that described for the Grande Prairie area Boreal Mixedwood Ecoregion by Archibald et al. (1984, Vol. II). However, environmental conditions are apparently not as favorable to plant growth in the Grande Prairie County West area; black spruce growth appears to be considerably better, and species cover and diversity is greater in the Black spruce association described by Archibald et al. (1984). The Black spruce association described herein bears a closer affinity to similarly named associations described elsewhere for the Boreal Mixedwood Ecoregion (e.g. Brierley et al. 1985; Kocaoglu and Bennett 1983, Bishoff (revised 1984); O'Leary et al. 1986).

3.3.2 Willow Shrubland Association (*Salix/Carex*)

Site and Soil Characteristics

Number of sample sites : 2
Moisture regime : Hydric to subhydric
Nutrient regime : Mesotrophic to eutrophic
Slope position : Depressions
Mean slope : 0%
Aspect :
Mean elevation (masl) : 830 (sample min., max. = 820, 845)
Parent material : Glaciofluvial or organic blankets over glaciolacustrine
Soil texture : Coarse to fine (mineral); mesic (organic)
Drainage : Very poor
Mean soil reaction (rooting zone): pH 7.3 (sample min., max. = 6.5, 8.0)
Soil classification : Rego Gleysol, Terric Mesisol

The Willow Shrubland association occurs in wet depressions which probably receive nutrient enrichment from surrounding uplands through surface runoff or groundwater. It appears to be most prevalent on organic or glaciolacustrine materials within the Beaverlodge Plain physiographic district. Figure 3.11 shows the range of moisture and nutrient conditions within which communities belonging to this association are expected to occur.

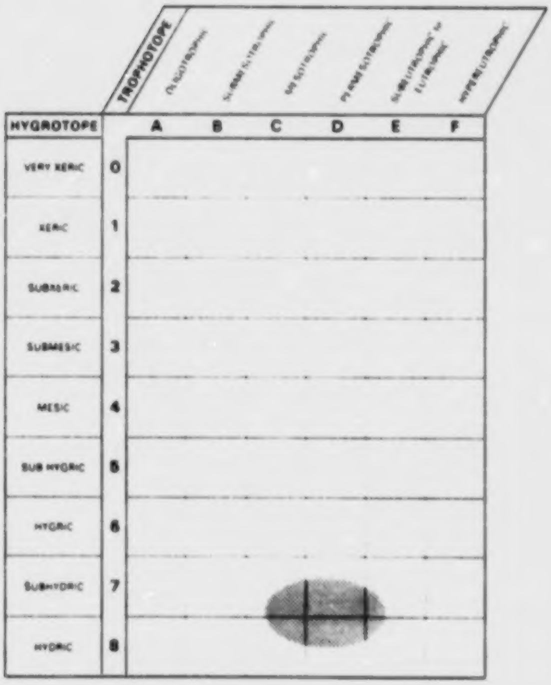

Fig. 3.11. EDATOPIC GRID: WILLOW SHRUBLAND ASSOCIATION

Vegetation

Characteristic Species

Tree Layer	None	
Shrub Layer	**Salix bebbiana**	Beaked willow
Forb Layer	**Fragaria virginiana** **Aster ciliolatus** **Solidago canadensis** **Achillea millefolium** **Galium boreale**	Strawberry Lindley's aster Goldenrod Yarrow Northern bedstraw
Grass and Graminoid Layer	**Carex** spp.	Sedges
Mosses and Lichens on Humus	**Aulacomium palustre**	Tufted moss

This association appears to be quite variable in terms of species diversity and cover, although this may be a function of the extremely small sample size. There are no dominant and constant shrub species, although myrtle-leaved willow (**Salix myrtillifolia**) and dwarf birch (**Betula glandulosa**) may be locally dominant. The forb layer is discontinuous and again there are no constant and dominant species. Composition of the grass/graminoid layer is highly variable and may include several species of sedge and rush (**Juncus spp.**). The moss layer is generally well developed and tufted moss is consistently present with high cover. Golden moss (**Tomenthypnum nitens**) occurs on the more nutrient-rich sites.

No equivalent association is described for the Grande prairie area Boreal Mixedwood Ecoregion by Archibald et al. (1984).

3.3.3 Dwarf birch/Sedge/Golden moss Association (**Betula glandulosa/Carex spp./Tomenthypnum nitens**)

Site and Soil Characteristics (Source: Resource Evaluation Branch. 1986. Berland-Fox Creek-Knight Vegetation Classification (in preparation)

Number of sample sites : 2
Moisture regime : Hydric
Nutrient regime : Mesotrophic-eutrophic
Slope position : Depressions
Mean slope : 0%
Aspect :
Mean elevation (masl) : 808 (sample min., max. = 795, 820)
Parent material : Organic
Soil texture : Mesic-humic
Drainage : Very poor
Mean soil reaction (rooting zone): pH 5.6 (sample min., max. = 5.5, 5.8)
Soil classification : Terric Humisol, Typic Mesisol

This association occurs throughout the Grande Prairie County West study area but with limited areal extent. As no representative communities were sampled during the 1985 field season within the study area, the above summary of site and soil characteristics and the following summary of vegetation characteristics are taken directly from the Berland Integrated Inventory and Evaluation report (Vol. II).

Wet, nutrient-rich organic soils with open water are characteristic of sites supporting this association. Within the study area, these sites are most often found within glacial meltwater channels, where organic deposits are underlain by fine textured glaciolacustrine materials, (Beaverlodge plain physiographic district) and on patterned fens (Pinto plain physiographic district). Figure 3.12 shows the range of soil moisture and nutrient conditions within which communities belonging to this association are expected to occur.

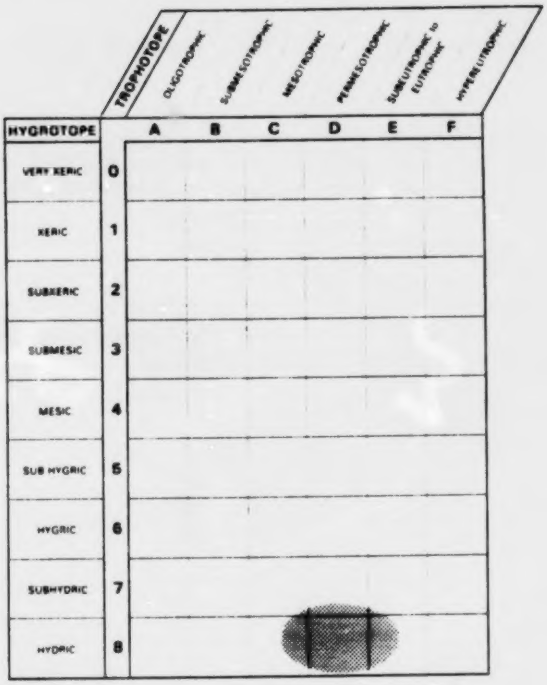

Fig. 3.12. EDATOPIC GRID: DWARF BIRCH/SEDGE/GOLDEN MOSS ASSOCIATION

Vegetation

Characteristic Species

Shrub Layer	**Larix laricina**	Tamarack
	Betula glandulosa	Dwarf birch
	Ledum groenlandicum	Labrador tea
Forb Layer	**Menyanthes trifoliata**	Buck bean
	Oxycoccus microcarpus	Small bog cranberry
	Potentilla palustris	Marsh cinquefoil
	Equisetum fluviatile	Swamp horsetail
	Galium labradoricum	Bedstraw
	Smilacina trifolia	Three-leaved Solomon's seal
Grass and Graminoid Layer	**Carex aquatilis**	Water sedge
	Carex limosa	Mud sedge
Mosses and Lichens on Humus	**Tomenthypnum nitens**	Golden moss
	Drepanocladus vernicosis	Brown moss
	Aulacomium palustre	Tufted moss

A well developed shrub layer dominated by dwarf birch, a discontinuous forb layer with only buck bean as a dominant species, a sedge dominated poorly developed graminoid layer and a continuous moss carpet dominated by golden moss characterize this association. Species diversity is high compared to the Black spruce/Labrador tea/Sphagnum association described earlier.

3.3.4 Discussion: Wetland Associations

Of the three wetland associations described, the Black spruce/Labrador tea/Sphagnum association is the most extensive. It is also the most species-poor and, judging by site and vegetation data, the most nutrient poor. The Willow shrubland association is quite similar to the Dwarf birch/Sedge/ Golden moss association as both have well developed shrub and moss layers and both are relatively nutrient rich; however, based on available data, the latter association occurs under wetter conditions, where water is present at the soil surface.

4. PLANT ASSOCIATIONS AND SITE PRODUCTIVITY

4.1 Introduction

Plant associations represent a synthesis of information about vegetation and associated environmental conditions. To the resource manager, this information can be of value in assessing land use suitability, particularly if a common basis for comparing lands supporting different plant communities can be used. Various quantitative measures of site productivity (the ability of a site to produce trees, forage, etc.) have long been employed by foresters and biologists to facilitate such comparisons.

In the Grande Prairie County West study, both tree and forage productivity data were collected at a number of sites throughout the area. These data were subsequently grouped by plant association, on the assumption that differences in the physical environment reflected by each association (especially moisture and nutrient status) would be similarly indicated by differences in productivity. To test this assumption, simple statistical comparisons of the data were made, with plant associations as the independent variables. Data collection and analysis methods are discussed under Methods (Section 2 of this volume, Section 2 of Volume I).

4.2 Data Used in Comparisons

Productivity data include the following:

1. Forestry Data

   (a) Site index (height in m @ 50 yr reference age) for dominant and codominant tree species appropriate to each association. For productivity comparisons, forested associations were ranked on a three part scale according to subdivisions established for Phase 3 classes by the Alberta Forest Service.[5]

Table 4.1

PHASE 3 SITE INDEX CLASSES

Species	Phase 3 Site Class	Range of Site Index
Pine	Good (G)	>16.0
	Medium (M)	>12.0 and ≤16.0
	Fair (F)	≤12.0
White Spruce	(G)	>14.5
	(M)	>10.5 and ≤14.5
	(F)	≤10.5
Black Spruce	(G)	>9
	(M)	>6 and ≤9
	(F)	≤6
Aspen	(G)	>17.0
	(M)	>14.0 and ≤17.0
	(F)	≤14.0

For: Engelmann spruce use white spruce.
Balsam fir use white spruce.
Larch use black spruce.
Balsam poplar use aspen.

The site index values shown are for a reference age of 50 years measured at breast height.

Source: V. LeMay, Forest Measurement Section, Alberta Forest Service memorandum (file reference T/M F2.31 Feb. 22, 1985)

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[5] Complete mensuration data are provided for each association and for individual plots in Appendix 1 (mensuration tables).

2. Forage Data
   a. Air-dry grass and graminoid productivity (kg/ha).
   b. Air-dry total forb productivity (kg/ha).
   c. Air-dry palatable browse productivity (0.5 m-2.5 m above ground, current year growth, kg/ha).

4.3 Results of Analysis

Statistical analyses and comparisons of both forestry and forage productivity are reported in tabular form in this section. As explained in Section 2 of this volume, sample selection was not random and statistical analyses as conventionally interpreted are therefore not valid. However, the objective of these analyses is to identify trends in the data which facilitate the ordination of plant associations by productivity on a relative scale. Mean, standard deviations and 70 per cent confidence intervals are given to provide the user with an indication of data variability, as are the maximum and minimum values of samples comprising the associations. Because the trends reported are relative, numerical data should not be interpreted too strictly.

Tables on the following pages group plant associations according to:

1. Forest productivity classes using Phase 3 subdivisions, as explained above; and

2. Forage productivity classes which have been subdivided into groups based on apparent divisions within the data.

(relatively large differences in mean values and minimum overlap of 70% confidence intervals were sought). Bar charts were used to assist in making this separation per the method outlined in Brierley et al. 1985 (Vol. II, Section 5) but are not presented here. It must be emphasized that these classes are based on trends within data collected for the Grande Prairie County West study area, and are therefore not necessarily equivalent to regional or provincial classes. Strong (1981) developed an arbitrary scale for rating forage productivity which be applied to data collected for Jean D'Or Prairie. This scale is provided, for purposes of comparison, as a regional" classification alongside the classes derived from data collected within the study area for Table 4.9 (combined grass/forb productivity).

Table 4.2

DATA SUMMARY: SITE INDEX (ASPEN, BALSAM POPLAR) H @ 50 YR. FOR STANDS WITH ASPEN OR BALSAM POPLAR COMPONENT (n=53)

Plant Association	$\bar{X}$	Sx	n	Standard Error of Mean (SEM)	Range (70% confidence)	Sample Minimum	Sample Maximum	Phase 3 Site Index Class	Productivity Class (Volume I, This Report)
Balsam poplar/Red-osier dogwood-Alder	18.8	---	1	---	---	18.8	18.8	G	High
Aspen/Alder	17.3	2.24	5	1.00	16.1-18.5	15.5	21.0	G	
Aspen/Low-bush cranberry-Rose	17.3	2.36	29	0.44	16.8-17.8	12.2	23.5	G	
Aspen-Balsam poplar/Bracted honeysuckle	16.5	1.66	2	1.17	14.2-18.8	15.3	17.7	M	Moderate
Aspen/Buffaloberry	16.2	2.07	13	0.57	15.6-16.8	13.1	20.3	M	
White spruce-Aspen/Low-bush cranberry-Rose	14.8	0.67	3	0.39	14.3-15.3	14.2	15.5	M	

Table 4.3

DATA SUMMARY: SITE INDEX (WHITE SPRUCE) H @ 50 YR. FOR STANDS WITH WHITE SPRUCE COMPONENT (n=5)

Plant Association	$\bar{X}$	Sx	n	Standard Error of Mean (SEM)	Range (70% Confidence)	Sample Minimum	Sample Maximum	Phase 3 Site Index Class	Productivity Class (Volume I, This Report)
White spruce-Aspen/Low-bush cranberry-Rose	16.3	2.55	4	1.28	14.7-17.9	13.0	18.9	G	High
White spruce/Feathermoss	12.8	---	1	---	---	12.8	12.8	M	Moderate

Table 4.4

DATA SUMMARY: SITE INDEX (BLACK SPRUCE) H @ 50 YR. FOR STANDS WITH BLACK SPRUCE COMPONENT (n=2)

Plant Association	$\bar{X}$	Sx	n	Standard Error of Mean (SEM)	Range (70% confidence)	Sample Minimum	Sample Maximum	Phase 3 Site Index Class	Productivity Class (Volume I, This Report)
Black spruce/Labrador tea/Sphagnum moss	6.3	0.92	2	0.65	5.0-7.6	5.7	7.0	M	Moderate

$\bar{X}$ = mean
Sx = standard deviation
a = Table 4.1 in Section 4 summarizes Phase 3 site index classes by species.

Table 4.5

DATA SUMMARY: PALATABLE BROWSE BIOMASS (KG/HA) OF SAMPLED SITES WITHIN 10* ASSOCIATIONS (n=32)

Plant Association	$\bar{X}$	Sx	n	Standard Error of Mean	Range (70% Confidence)	Sample Minimum	Sample Maximum	Productivity Class
Willow shrubland	55.8	---	1	---	---	---	---	High
Dwarf birch/Sedge/Golden moss	41.0	25.4	2	17.99	6-76	23	59	Moderate
Aspen-Balsam poplar/Honeysuckle	36	---	1	---	---	---	---	
Balsam poplar/Red-osier dogwood-Alder	27	---	1	---	---	---	---	
Aspen/Buffalo-berry	17.8	15.2	8	5.37	11.8-23.88	0	34	Low to very low
White spruce-Aspen/Low-bush cranberry-Rose	9.2	0.9	2	0.63	8-10	9	10	
Aspen/Low-bush cranberry-Rose	5.3	3.5	13	0.97	4.2-6.3	1	13	
Aspen/Alder	3.2	4.8	3	2.8	0-7.0	1	9	
White spruce/Feathermoss	3.0	---	1	---	---	---	---	
Black spruce/Labrador tea/Sphagnum	0	---	1	---	---	---	---	

$\bar{X}$ mean
Sx standard deviation
* No data available for Lodgepole pine association described by Archibald et al (1984)

Table 4.6

DATA SUMMARY: GRASS/GRAMINOID BIOMASS OF SAMPLED SITES WITHIN 10* ASSOCIATIONS (n=60)

Plant Association	$\bar{X}$	Sx	n	Standard Error of Mean	Range (70% Confidence)	Sample Minimum	Sample Maximum	Productivity Class
Willow shrubland	563	56	2	39	485-6400	523	603	High
Dwarf birch/Sedge/Golden moss	272	149.9	2	106	64-480	166	378	Moderate
Aspen-Balsam poplar/Honeysuckle	96	7.8	2	5.5	85-106	90	101	
Aspen/Low-bush cranberry-Rose	96	82	29	15.2	80-112	1	367	
Aspen/Buffalo-berry	65	41	13	11.4	53- 77	19	128	
White spruce/Feathermoss	45	---	1	---	---	---	---	Low to very low
Aspen/Alder	35	46	5	20.6	10- 59	0	113	
White spruce-Aspen/Low-bush cranberry-Rose	6	11	4	5.5				
Black spruce/Labrador tea/Sphagnum moss	0	0	2	0	0	0	0	
Balsam poplar/Dogwood-Alder	0	---	1	---	---	---	---	

$\bar{X}$ mean
Sx standard deviation
* no data available for Lodgepole pine associations described by Archibald et al (1984)

Table 4.7

DATA SUMMARY: FORB BIOMASS OF SAMPLED SITES WITHIN 10* ASSOCIATIONS (n=60)

Plant Association	$\bar{X}$	Sx	n	Standard Error of Mean	Range (70% Confidence)	Sample Minimum	Sample Maximum	Productivity Class
Dwarf birch/Sedge/Golden moss	392	105	2	74.2	244-536	316	465	High
Aspen-Balsam poplar/ Honeysuckle	378	47	2	33.2	313-443	345	411	
Aspen/Low-bush cranberry-Rose	294	145	29	26.9	266-322	116	647	Moderate
White spruce-Aspen/Low-bush cranberry-Rose	234	5	4	2.5	230-237	226	238	
Aspen/Buffalo-berry	221	75	13	20.8	198-243	63	337	
Aspen/Alder	199	76	5	34.0	158-239	117	283	
Balsam poplar/Red-osier dogwood	114	---	1	---	---	---	---	
Willow shrubland	111	52	2	36.8	39-183	74	148	
White spruce/Feathermoss	96	---	1	---	---	---	---	
Black spruce/Labrador tea/Sphagnum moss	0	0	2	0	0	0	0	

$\bar{X}$ mean
Sx standard deviation
* no data available for Lodgepole pine associations described by Archibald et al (1984)

Table 4.8

DATA SUMMARY: GRAMINOID AND FORB BIOMASS OF SAMPLED SITES WITHIN 10* ASSOCIATIONS (n=60)

Plant Association	$\bar{X}$	Sx	n	Standard Error of Mean	Range (70% Confidence)	Sample Minimum	Sample Maximum	Productivity Class this Report	Productivity Class Jean D'ur Prairie (Strong 1981)
Willow shrubland	674	109	2	77.2	523-825	597	751	High	Moderate (600-1500 kg/ha)
Dwarf birch/Sedge/Golden moss	662	255	2	180.3	308-1015	482	843		
Aspen-Balsam poplar/Honeysuckle	474	389	2	27.5	420-528	440	501	Moderate	
Aspen/Low-bush cranberry-Rose	391	177	29	32.9	356-425	144	787		
Aspen/Buffalo-berry	281	80	13	22	257-305	106	429	Low to very low	Low (<600 kg/ha)
White spruce-Aspen/Low-bush cranberry-Rose	240	6	4	3.0	236-244	235	248		
Aspen/Alder	233	56	5	25.0	203-263	175	297		
White spruce/Feathermoss	141	---	1	---	---	---	---		
Balsam poplar/Red-osier dogwood-Alder	114	---	1	---	---	---	---		
Black spruce/Labrador tea/Sphagnum moss	0	0	2	0	0	0	0		

$\bar{X}$ mean
Sx standard deviation
* no data available for lodgepole pine associations described by Archibald et al (1984)

APPENDIX 1

1. INVENTORY DATA ANALYSES: LEGENDS FOR TABLES

This part of Appendix 1 explains column and row headings for tables which follow in Section 2. These tables present site data (ENVIRONMENT/SOILS-VEGETATION TABLES), vegetation data (VEGETATION TABLES) and mensuration data (MENSURATION SUMMARY) for plots belonging to plant associations described in Section 3 of Volume II.

These data are currently stored on the University of Alberta MTS (Michigan Terminal System) computer system, and were manipulated using existing programs that sort data into groups defined by the researcher.

1.1 Environment/Soils-Vegetation Tables

These tables present site data for individual sites comprising an association. Average values are calculated for several parameters and are reported in the MEAN column of each table. Table headings indicate the association to which the table applies. For example, MW A1 POPULUS TREMULOIDES/SHEPHERDIA CANADENSIS indicates that the table corresponds to the Aspen/Buffalo-berry association (A1) of the Mixedwood (MW) Ecoregion. The abbreviation A1 is used to facilitate data presentation in the extended legend of Volume I.

Individual site data are recorded in vertical columns. Upland sites are grouped first by parent materials and then by soil moisture status. Wetland sites are ordinated by both moisture and nutrient regime. For example, the **Populus tremuloides/Shepherdia canadensis** association comprises 15 plots, all of which are on morainal parent material (see OVERLYING MATERIAL/UNDERLYING MATERIAL below), and sites are ordinated from driest to moistest. A brief description of row headings follows.

PLOT NUMBER

Assigned to an individual plot. Records are stored on and retrieved from computer data banks using this number.

TOWNSHIP, RANGE, MAP SHEET

Self-explanatory.

ELEVATION (MASL)

Elevation in metres above sea level.

SLOPE, ASPECT

Self-explanatory.

ECOLOGICAL MOISTURE REGIME

The following codes are used in the tables and are fully explained in Section 1, Item 15 of the Integrated Resource Inventory Site Manual (Alberta Energy and Natural Resources 1984).

SX	subxeric	(driest)
SM	submesic	
M	mesic	
SHG	subhygric	
HG	hygric	
SHD	subhydric	
HD	hydric	(wettest)

NUTRIENT REGIME

The following codes used in the tables are fully explained in Section 1, Item 19 of the Integrated Resource Inventory Site Manual (Alberta Energy and Natural Resources 1985).

O	oligotrophic	(most nutrient-poor)
SM	submesotrophic	
M	mesotrophic	
PM	permesotrophic	(most nutrient-rich)
E	eutrophic	

OVERLYING MATERIAL/UNDERLYING MATERIAL

Generally equivalent to parent material, except on organic terrain. Abbreviations follow the Canadian System of Soil Classification (1978) and are detailed in Section 1, Item 23 of the Integrated Resource Inventory Site Manual (Alberta Energy and Natural Resources 1985). The major ones are as follows:

Landform		Modifier	
C	colluvium	v	veneer
F	fluvial	b	blanket
GF	glaciofluvial	i	inclined
GL	glaciolacustrine	l	level
L	lacustrine	h	hummocky
LT	lacustrotill	t	terrace
M	moraine	r	ridged
O	organic	m	rolling
X	residual	s	sloping (applied to organic materials)

SOIL SUBGROUP/SOIL GREAT GROUP

Abbreviations follow the Canadian System of Soil Classification (1985).

SOIL DRAINAGE

Abbreviations are detailed in Section 1, Item 17 of the Integrated Resource Inventory Site Manual (Alberta Energy and Natural Resources 1985). These are summarized as follows:

VP - very poor
P - poor
I - imperfect
MW - moderately well
W - well
R - rapid

SOLUM THICKNESS

Top of A horizon to bottom of B horizon.

TYPE AND DEPTH TO RESTRICT(ION)

W - water
L - lithic
K - carbonate
P - frozen

The number indicates depth to restriction in centimetres

THICKNESS LFH

Self-explanatory

pH LFH/A/B/C

Soil reaction of the litter layer and the A, B and C horizons.

TEXTURE A1/B2/C3

Abbreviations follow the Canadian System of Soil Classification (1978) and are outlined in Section 2, Item 6 of the Integrated Resource Inventory Site Manual (Alberta Energy and Natural Resources 1985). These are summarized as follows:

S - sand
Si - silt
C - clay
HC - heavy clay
L - loam

COARSE FRAGMENTS - B(%)

Self explanatory

SEEPAGE (*) & MOTTLING

Presence of seepage indicated by (*) and depth to mottling given in centimetres.

ROOTING DEPTH

Depth at which abundance of roots declines to very few.

ASSOCIATION

The code assigned to each association to facilitate data presentation within the report.

STAND AGE

Age of oldest tree(s) measured in plot, except where these are obviously scattered remnants of pre-existing stands. Not necessarily equivalent to stand age reported in mensuration tables, which is an average of all ages taken in plots.

CANOPY HEIGHT

Average height of trees forming the main canopy.

MEAN ANNUAL INCREMENT

Reported as gross volume, in m^3/ha/yr, as calculated by a mensuration program (Section 1.3 of this Appendix).

STRATA COVERAGE (%) A/B/C/G/D/L

Visually estimated coverages for the tree (A), shrub (B), forb (C), grass and graminoid (G), bryophyte (D) and lichen (L) layers.

SURFACE SUBST(RATE) - DEAD WOOD, ETC.

Per cent of surface covered by various materials; visually estimated.

BIOMASS (KG/HA) FORBS/GRAMINOIDS/BROWSE

Self-explanatory

1.2 Vegetation Tables

There are two levels of vegetation information presented in the vegetation tables: (a) summaries of individual plots within each plant association; and (b) summaries of plant associations.

(a) Individual Plot Summary Tables

These tables present plot data for each plant association in exactly the same order of plots as for the Environment/Soils-Vegetation tables discussed above. This is done to facilitate comparisons between vegetation information and environmental conditions. Again, individual site data are recorded in vertical columns.

The heading of each table gives the name of the association (preceded by its code as discussed in Section 1.1), as well as a list of the abbreviations for terms used within the tables (e.g. PRESENCE [%P]). Table headings are defined as follows:

ECOSYM UNIT

The abbreviation assigned to each associations is printed here (e.g. MW A1 for the **Populus tremuloides/Shepherdia canadensis** association). These are discussed in Section 1.1 above.

PLOT NUMBER

See PLOT NUMBER description in Section 1.1 above.

NUMBER OF SPECIES PER PLOT

Total number of species (vascular and non-vascular) are recorded here and an average is calculated.

SPECIES

A seven letter code is assigned to each plant species. Full Latin and common names for each code are given in Appendix 2 of this volume.

A1/A2/E/B1/B2/C/G/D/L LAYER

A1 - main tree canopy
A2 - understory trees over 5 m tall
E - epiphytes (lichens, bryophytes on trees, shrubs)
B1 - Tall shrubs and tree regeneration 2.5-5m tall
B2 - low shrubs and tree regeneration less than 2.5 m tall
C - forbs
G - grasses and grass-like species (e.g. cottongrass, sedge rushes)
D - bryophytes on dominant substrate (usually on soil)
L - lichens on dominant substrate (usually on soil)

PRESENCE (%P)

This measure is defined as the percentage of occurrence of a species in plots which belong to a given plant association, and can range from greater than 0% to 100%. SPECIES are listed in order of highest to lowest presence within each layer.

MEAN COVER (MC)

The average visually estimated foliar cover of a given plant species; per cent cover for the species is totalled for all plots and divided by the total number of plots.

COVER (%C)

A visual estimate of foliar cover for a given species in an individual plot. A blank means that the species was not present within the plot. Ranges from 1 to 100 per cent.

SOCIABILITY (S)

Not evaluated

VIGOR (V)

Refers to the relative size and health of the plant.

0 = dead
1 = poor
2 = fair (average)
3 = good
4 = excellent

(b) Summary Vegetation Table

These tables constitute a comparison between the plant associations determined by the vegetation tables, and are a summary of the plant species for all associations. The vegetation program takes the mean cover and per cent presence for each plant association and lists them alphabetically by SPECIES. The heading PRESENCE CLASS AND MEAN SPECIES SIGNIFICANCE refers to percent presence and mean cover, respectively.

PRESENCE CLASSES

As follows:

Percent Presence	Presence Class
Occurrence in 0.1-20% of plots in association	I
Occurrence in 20.1-40% of plots in association	II
Occurrence in 40.1-60% of plots in association	III
Occurrence in 60.1-80% of plots in association	IV
Occurrence in 80.1-100% of plots in association	V

MEAN SPECIES SIGNIFICANCE

Are the same as those presented in the AVERAGE VALUE column for a given association and species.

The associations are denoted by an alphanumeric code (e.g. MW A1 is the **Populus tremuloides/Shepherdia canadensis** association) as described in Section 1.1 above.

1.3 Mensuration Summary

Each plot at which mensuration data was collected is described with reference to plot number, size, species and a number of related parameters. Abbreviation for species encountered in the Keg River study are as follows:

AW - Trembling aspen (**Populus tremuloides**)
PB - Balsam poplar (**Populus balsamifera**)
BW - Paper birch (**Betula papyrifera**)
SW - White spruce (**Picea glauca**)
SB - Black spruce (**Picea mariana**)
PL - Lodgepole pine (**Pinus contorta** var. **latifolia**)
LT - Tamarack (**Larix laricina**)

Other Abbreviations

MAI	Mean annual increment (= total volume divided by stand age for total MAI, or merchantable volume divided by stand age for merchantable MAI).
S.I.	Site index - a measure of site quality as expressed by height in metres at a reference age (50 years).
CONF	Coniferous (SW, SB, PL, LT)
HDWD	Hardwood (AW, PB, BW)

Summary tables for each association in which mensuration data was collected for individual plots are also given. The association is identified in the table heading by its assigned name and abbreviation (e.g. MW A1 **Populus tremuloides/Shepherdia canadensis**). Two summary tables are produced; the first gives statistical information pertaining to various parameters analysed for all plots together, and the second gives mensuration data for individual plots.

PLOT NUMBERS

Plot numbers are recorded the same as those on the environment and vegetation tables.

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ENVIRONMENT/SOILS-VEGETATION TABLES RESOURCE INVENTORY

TITLE : MW A1 POPULUS TREMULOIDES/SHEPHERDIA CANADENSIS TABLE 1

		5G	5G	5G	5G	5G	5G	5G	5G	5G	5G	5G	5G	3G	5G	3G
PLOT NUMBER	MEAN	W006	W018	W036	W038	W042	W043	W045	W046	W055	W016	W033	W052	P208	W053	P079
TOWNSHIP & RANGE		7513	7510	7113	7112	7113	7112	7111	7111	7013	7411	7212	7013	6912	7013	6910
MERIDIAN		W 6	W 6	W 6	W 6	W 6	W 6	W 6	W 6	W 6	W 6	W 6	W 6	W 6	W 6	W 6
MAPSHEET		83	83	83	83	83	83	83	83	83	83	83	83	83L	83	83L
		M 5	M 11	M 4	M 4	M 4	M 4	M 4	M 4	M 4	M 5	M 4	M 4	13	M 4	14
PHYSIOGRAPHIC SUBREGION		BP	BP	BP	BP	BP	BP	BP	BP	BP	BP	BP	BP	BP	BP	BP
GEOMORPHIC SYSTEM																
ECOSECTION		M1	M2	M5	M6	GLM1	M6	M6	M5	GL1	M1	M6	GLM1	GL1	M6	GL2
ELEVATION(MASL)	814.0	810	815	870	820	840	840	810	810	790	800	815	845	775	850	720
SLOPE(%)	1.6	2	2	2	4	0	0	2	1	4	0	2	2	2	1	0
ASPECT(DEG)		320	140	180	360			270	340	310		330	80	6	180	
ENVIRONMENT/SOILS :																
ECOLOGICAL MOISTURE REGIME		M	M	M	M	M	M	M	M	M	M	M	M	M	M	SX
NUTRIENT REGIME		M	M	M	M	M	M	M	M	M	M	M	M	M	M	SM
OVERLYING MATERIAL		Mu	Mu	Mu	Mu	Mr	Mu	Mu	Mu	Mu	Mu	Mu	Mu	Mb	GFv	
UNDERLYING MATERIAL														Ru	Mu	GF1
EROSION/DEPOSITION																
SOIL SUBGROUP		O	O	O	BR	O	O	O	O	O	GL	GL	GL	O	BR	PZ
SOIL GREAT GROUP		GL	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL
SOIL DRAINAGE		MW	MW	MW	MW	MW	MW	MW	MW	MW	I	I	I	MW	MW	R
SOLUM THICKNESS(CM)	65.9		60	65		80		65	90	70	85		60	44	70	36
TYPE & DEPTH TO RESTRICT(CM)														L 100		
THICKNESS LFH(CM)	7.4	8	8	6	8	6	8	5	6	7	18	7	6	7	6	5
pH-LFH	0.0															
-A	5.7	6.0	5.5	5.5	6.0	5.0	6.0	6.5	6.0	5.5	5.5	6.5	5.5	5.0	6.5	5.0
-B	6.3	6.0	6.5	7.0	6.0	6.0	6.5	7.0	5.5	6.0	6.0	6.0	6.5	6.0	7.0	6.0
-C	7.9	7.0	8.0	8.0		8.0		8.0	8.0	8.0	8.0		8.0	8.0	8.0	8.0
TEXTURE-A/1		L	L	L	SiL	L	LS		SL	L	SL	L	L	SiL	SL	LS
-B/2		C	C	C	SiCL	CL			C	C	CL	C	CL	SiCL	C	SL
-C/3		CL	CL	CL		CL		CL	CL	CL	CL		CL	SiC	CL	LS
COARSE FRAGMENTS-B(%)	17.5	7	7	10	35	20	25	15	7	5	10	25	7	25	10	55
SEEPAGE(*) & MOTTLING(CM)			14								15	0	0			
ROOTING DEPTH(CM)	49.6	35	50	65	30	60	40	50	50	60	50	50	60		45	
VEGETATION :																
ASSOCIATION																
STAND AGE(YR)	74.7	84	98	62	84	58	75	65	57	85	64	81	89	101	63	54
CANOPY HEIGHT(M)	17.9	15	20	13	20	12	22	18	16	19	16	19	23	20	19	16
MEAN ANNUAL INCREMENT	0.0															
STRATA COVERAGE(%)-A	62.6	50	70	55	70	60	80	85	75	50	60	54	65	75	60	30
-B	64.5	55	75	35	75	50	75	70	25	90	75	72	80	75	80	35
-C	50.7	55	50	55	70	50	45	65	70	30	30	35	55	30	70	50
-G	10.1	7	20	20	30	6	5	7	25	1	8	9	4	2	5	3
-D	9.6	5	15	15	15	24	10	0	10	5	15	9	13	2	6	0
-L	0.9	0	0	2	2	7	0	0	2	1	0	0	0	0	0	0
SURFACE SUBST(%)-DEAD WOOD	5.5	5	15	10	5	5	5	3	3	5	3	2	5	10	5	1
-BEDROCK	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-STONES	0.8	0	0	2	2	2	2	2	0	0	0	2	0	0	0	0
-MIN.SOIL	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
-ORGANIC	93.5	95	85	88	93	93	93	95	97	95	97	96	95	90	93	98
-OPEN WATER	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BIOMASS(KG/HA)-FORBS	221.6	288	188	134	186	63	194	337	246	300	228	300	239		178	
-GRAMINOIDS	64.7	19	68	128	147	43	27	92	99	64	66	21	31		36	
-BROWSE	17.8	10			10		41	22		25		34	0		0	

TITLE : MW A3 POPULUS TREMULOIDES/VIBURNUM EDULE-ROSA SPP. TABLE 2

PLOT NUMBER	MEAN	5G W009	5G W019	5G W027	5G W028	5G W029	5G W030	5G W031	5G W032	5G W040	5G W041	5G W044	5G W048	5G W056	5G W059	5G W024	5G W050	5G W011	5G W012	5G W017
TOWNSHIP & RANGE		7412	7510	7313	7213	7213	7113	7212	7212	7112	7113	7013	7111	7013	6912	7313	7012	7412	7512	7411
MERIDIAN		W 6	W 6	W 6	W 6	W 6	W 6	W 6	W 6	W 6	W 6	W 6	W 6	W 6	W 6	W 6	W 6	W 6	W 6	W 6
MAPSHEET		83 M 5	83 M 11	83 M 5	83 M 5	83 M 4	83 M 4	83 M 4	83 M 4	83 M 4	83 M 4	83 M 4	83 M 4	83 M 4	83 L 13	83 M 5	83 M 4	83 M 5	83 M 5	83 M 5
PHYSIOGRAPHIC SUBREGION			BP	BP	BP	BP	BP	BP	BP	BP	BP	BP	BP	BP	BP	BP	BP	BP	BP	BP
GEOMORPHIC SYSTEM																				
ECOSECTION			M2	M3	M3	M5	M5	M5	M6	M6	M5	GLM1	M5	GL1	GL1	M3	M5	M1	M1	M1
ELEVATION(MASL)	824.5	800	820	840	850	850	850	830	825	850	870	810	790	825	810	870	845	800	820	825
SLOPE(%)	1.8	0	2	0	1	0	1	2	1	2	2	0	2	0	3	3	1	0	2	2
ASPECT(DEG)			170		56		180	360	270	270	140		350		16	354	170		180	300
ENVIRONMENT/SOILS :																				
ECOLOGICAL MOISTURE REGIME		M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	SHG
NUTRIENT REGIME		M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	SM
OVERLYING MATERIAL		Mu	Mu	Mu	Mu	Mu	Mu	Mu	Mu	Mu	Mu	Mu	Mu	Mu	Mi	Mu	Mu	Mu	Mu	Mu
UNDERLYING MATERIAL																				
EROSION/DEPOSITION																				
SOIL SUBGROUP		O	O	O	O	O	O	O	O	O	O	O	O	O	O	BR	O	GL	GL	O
SOIL GREAT GROUP		GL	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL	LG
SOIL DRAINAGE		MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	I	I	I	P
SOLUM THICKNESS(CM)	64.0	65	60	70	70		70	65	60		50		65	60	55	70		60	80	
TYPE & DEPTH TO RESTRICT(CM)								B 65							R 50					
THICKNESS LFH(CM)	7.5	8	7	7	7	5	5	6	7	8	5	7	7	8	10	10	4	10	8	10
pH-LFH	0.0																			
-A	5.9	6.0	6.0	5.5	6.0		5.5	6.0	5.5	6.0	6.0	6.0	6.0	6.5	5.5	5.5	5.5	5.5	6.0	5.0
-B	6.1	5.0	5.5	7.0	5.5		6.5	5.5	7.0	7.0	7.0	7.0	5.5	7.0	7.0	5.0	7.0	5.5	5.5	5.0
-C	7.8	8.0	8.0	8.0	8.0		8.0	8.0	8.0		8.0		8.0	8.0	8.0	7.0	8.0	8.0	8.0	
TEXTURE-A/1		L	L	SL	S	SCL	L	SIL	L	L	SL	L	L	CL	LS	S	L	L	S	SL
-B/2		C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
-C/3		CL	CL	CL	CL		CL	CL	CL		CL		CL	CL	CL	CL	CL	CL	CL	
COARSE FRAGMENTS-B(%)	8.0	3	15	5	5	20	15	7	5	7	10	8	10	5	5	5	5	5	5	10
SEEPAGE(*) & MOTTLING(CM)		18	12	0	0	0	0	0		0	0			0	0	0		13	0	15
ROOTING DEPTH(CM)	46.2	35	60	60	70	60	50		30	60	50	50	60	20		70	50	40	30	50
VEGETATION :																				
ASSOCIATION																				
STAND AGE(YR)	73.1	59	57	68	91	86	50	88	63	65	69	76	62	84	89	82	65	75	71	101
CANOPY HEIGHT(M)	19.1	15	15	20	18	20	12	23	14	21	18	20	16	24	26	22	15	18	19	16
MEAN ANNUAL INCREMENT	0.0																			
STRATA COVERAGE(%)-A	65.7	50	60	70	65	65	70	80	55	70	65	75	60	70	70	55	70	55	80	50
-B	64.0	45	75	80	65	99	85	70	60	70	65	70	40	60	90	35	65	65	60	40
-C	53.5	60	75	35	60	45	45	45	40	40	55	55	80	65	70	50	40	40	45	65
-G	15.3	6	40	0	15	40	8	5	12	2	5	11	45	20	12	4	40	10	10	26
-D	8.0	8	4	8	3	6	20	5	5	5	18	3	1	7	8	7	25	4	3	20
-L	0.9	0	0	1	1	0	1	3	0	2	1	3	0	0	0	1	7	1	0	0
SURFACE SUBST(%)-DEAD WOOD	4.8	2	5	7	5	4	2	3	3	7	5	5	2	5	5	10	3	5	15	5
-BEDROCK	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-STONES	0.4	0	0	0	0	1	2	2	1	2	0	0	1	0	0	0	0	0	0	0
-MIN.SOIL	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
-ORGANIC	94.8	98	95	93	95	95	96	95	96	91	95	95	97	95	95	90	97	95	85	95
-OPEN WATER	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BIOMASS(KG/HA)-FORBS	304.9	597	328	177	451	420	120	316	221	245	123	497	203	194	436	432	137	273	244	264
-GRAMINOIDS	96.4	69	153	1	196	367	52	64	155	18	21	111	249	46	55	74	53	98	204	141
-BROWSE	5.2	1		6	7					3		4	5					13		

TITLE : MW A3 POPULUS TREMULOIDES/VIBURNUM EDULE-ROSA SPP. TABLE 2

	5G	5G	5G	5G	3G	5G	5G	5G	5G	5G	5G
PLOT NUMBER	WO21	WO34	WO35	WO54	P212	WOO1	WOO8	WO22	WO25	WO49	WOO3
TOWNSHIP & RANGE	7312	7211	7212	6912	6913	7413	7412	7313	7213	7211	7413
MERIDIAN	W 6	W 6	W 6	W 6	W 6	W 6	W 6	W 6	W 6	W 6	W 6
MAPSHEET	83	83	83	83	83L	83	83	83	83	83	83
	M 5	M 4	M 4	L 13	13	M 5	M 5	M 5	M 5	M 4	M 5
PHYSIOGRAPHIC SUBREGION	BP	BP	BP	BP	BP	BP	BP	BP	BP	BP	BP
GEOMORPHIC SYSTEM											
ECOSECTION	M3	M4	M6	GL1	GL1	M3	M3	M4	M4	M5	M3
ELEVATION(MASL)	870	810	810	770	810	800	805	840	850	790	800
SLOPE(%)	5	1	0	0	0	3	15	3	2	0	0
ASPECT(DEG)	40	335				22	10	165	170		
ENVIRONMENT/SOILS :											
ECOLOGICAL MOISTURE REGIME	SHG	SHG	SHG	SHG	SHG	M	SX	M	M	M	SHG
NUTRIENT REGIME	M	M	M	M	PM	M	SM	SHG	M	M	M
OVERLYING MATERIAL	Mu	Mu	Mu	Mu	Mu	Mv	GFv	GFv	GFv	GFv	GLu
UNDERLYING MATERIAL						Xu	Mu	Mu	Mi	Mu	
EROSION/DEPOSITION											
SOIL SUBGROUP	GL	GL	GL	GL	GL	O	BR	BR	O	BR	GL
SOIL GREAT GROUP	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL
SOIL DRAINAGE	I	I	I	I	MW	MW	I	MW	MW	MW	I
SOLUM THICKNESS(CM)	80	60	60	60	40	70		70	65	60	70
TYPE & DEPTH TO RESTRICT(CM)						L 70					
THICKNESS LFH(CM)	12	7	8	10	7	5	8	9	5	7	7
pH-LFH											
-A	6.5	5.5	6.0	6.0	7.0	5.5	6.5	6.5	5.5	6.0	5.5
-B	5.5	5.5	6.0	6.0	8.0	5.5	5.5	7.0	6.5	5.5	6.0
-C	8.0	8.0	8.0	8.0	8.0	6.0	6.5	8.0	8.0	8.0	
TEXTURE-A/1	SL	L	L	L	SL	L	S	S	S	L	SL
-B/2	C	C	C	C	CL	C	CL	C	C	C	HC
-C/3	CL	CL	CL	CL	CL	HC	CL	CL	CL	CL	HC
COARSE FRAGMENTS-B(%)	7	10	10	7	30	2	5	5	7	5	1
SEEPAGE(*) & MOTTLING(CM)	0	0	0	0	0	27		0	0	0	0
ROOTING DEPTH(CM)	60	43	50	40		27	38	22	50	33	40
VEGETATION :											
ASSOCIATION											
STAND AGE(YR)	86	51	50	82		79	73	91	66	71	69
CANOPY HEIGHT(M)	25	20	22	21	13	24	20	24	17	17	18
MEAN ANNUAL INCREMENT											
STRATA COVERAGE(%)-A	80	85	70	70	80	40	65	60	65	65	55
-B	90	50	45	70	40	50	85	85	40	80	45
-C	70	50	25	70	30	40	40	50	55	75	90
-G	5	7	0	70	1	18	0	2	20	25	1
-D	0	4	5	35	2	18	0	2	3	1	9
-L	0	1	0	0	1	3	0	0	0	0	0
SURFACE SUBST(%)-DEAD WOOD	5	2	5	5	1	5	2	3	3	5	10
-BEDROCK	0	0	0	0	0	0	0	0	0	0	0
-STONES	0	2	0	0	0	0	0	0	0	2	0
-MIN.SOIL	0	0	0	0	0	0	0	0	0	0	0
-ORGANIC	95	96	95	95	99	95	98	97	97	93	90
-OPEN WATER	0	0	0	0	0	0	0	0	0	0	0
BIOMASS(KG/HA)-FORBS	328	155	179	259		647	190	466	176	116	647
-GRAMINOIDS	6	34	84	140		94	2	12	82	121	94
-BROWSE		7				1		7	7		1

ENVIRONMENT/SOILS-VEGETATION TABLES

RESOURCE INVENTORY

TITLE : MW A5 POPULUS TREMULOIDES/ALNUS CRISPA

TABLE 3

		5G	5G	5G	5G	5G	3G
PLOT NUMBER	MEAN	W002	W004	W058	W039	W013	P207
TOWNSHIP & RANGE		7413	7413	7013	7112	7412	6913
MERIDIAN		W 6	W 6	W 6	W 6	W 6	W 6
MAPSHEET		83	83	83	83	83	83L
		M 5	M 5	M 4	M 4	M 5	13
PHYSIOGRAPHIC SUBREGION		BP	BP	BP	BP	BP	PP
GEOMORPHIC SYSTEM							
ECOSECTION		M3	M3	GLM1	M6	M1	M1
ELEVATION(MASL)	846.3	823	885	870	840	820	840
SLOPE(%)	2.8	2	0	3	2	3	7
ASPECT(DEG)		84		340	90	300	127
ENVIRONMENT/SOILS :							
ECOLOGICAL MOISTURE REGIME		SM	M	M	M	SHG	SHG
NUTRIENT REGIME		M	M	M	M	M	PM
OVERLYING MATERIAL		Mv	Mu	Mu	GFv	Mu	GFv
UNDERLYING MATERIAL		Xu			Mu		
EROSION/DEPOSITION							
SOIL SUBGROUP		O	O	O	O	GLBR	GL
SOIL GREAT GROUP		GL	GL	GL	GL	GL	EB
SOIL DRAINAGE		MW	MW	MW	MW	I	I
SOLUM THICKNESS(CM)	72.8	70	60	55	115	85	52
TYPE & DEPTH TO RESTRICT(CM)							
THICKNESS LFH(CM)	7.3	7	8	5	7	9	8
pH-LFH	0.0						
-A	6.2	6.5	5.5	5.5	6.5	7.0	6.0
-B	6.3	6.0	5.5	6.0	7.5	6.0	7.0
-C	7.2	6.5	5.5	7.5	8.0	7.5	8.0
TEXTURE-A/1		SL	L	L	SL	SiL	SL
-B/2		CL	C	CL	C	CL	LS
-C/3		SCL	CL	L	C	CL	S
COARSE FRAGMENTS-B(%)	5.4	3	2	10	7	5	
SEEPAGE(*) & MOTTLING(CM)						0	31
ROOTING DEPTH(CM)	45.0	45	40	50	40	50	
VEGETATION :							
ASSOCIATION							
STAND AGE(YR)	79.6	79	49	101	61	108	
CANOPY HEIGHT(M)	19.2	21	14	19	20	22	19
MEAN ANNUAL INCREMENT	0.0						
STRATA COVERAGE(%)-A	69.3	80	65	50	70	90	61
-B	69.2	70	50	75	75	80	65
-C	53.3	70	45	50	65	50	40
-G	2.7	1	1	8	5	0	1
-D	6.3	1	2	20	10	2	3
-L	1.2	0	1	2	3	0	1
SURFACE SUBST(%)-DEAD WOOD	5.3	5	5	3	7	7	5
-BEDROCK	0.0	0	0	0	0	0	0
-STONES	0.5	0	0	0	3	0	0
-MIN.SOIL	0.0	0	0	0	0	0	0
-ORGANIC	94.2	95	95	97	90	93	95
-OPEN WATER	0.0	0	0	0	0	0	0
BIOMASS(KG/HA)-FORBS	199.4	172	277	117	148	283	
-GRAMINOIDS	34.4	3	20	113	36	0	
-BROWSE	3.7	9		1	1		

ENVIRONMENT/SOILS-VEGETATION TABLES RESOURCE INVENTORY

TITLE : MW A7 POPULUS TREMULOIDES/LONICERA INVOLUCRATA/RUBUS PUBESCENS TABLE 4

PLOT NUMBER	MEAN	5G W005	5G W026
TOWNSHIP & RANGE		7513	7213
MERIDIAN		W 6	W 6
MAPSHEET		83 M 5	83 M 5
PHYSIOGRAPHIC SUBREGION		BP	BP
GEOMORPHIC SYSTEM			
ECOSECTION		M1	M3
ELEVATION(MASL)	830.0	790	870
SLOPE(%)	0.0	0	0
ASPECT(DEG)			
ENVIRONMENT/SOILS :			
ECOLOGICAL MOISTURE REGIME		SHG	SHG
NUTRIENT REGIME		M	M
OVERLYING MATERIAL		Mu	Mu
UNDERLYING MATERIAL			
EROSION/DEPOSITION			
SOIL SUBGROUP		GL	GL
SOIL GREAT GROUP		GL	GL
SOIL DRAINAGE		I	I
SOLUM THICKNESS(CM)	85.0	95	75
TYPE & DEPTH TO RESTRICT(CM)			
THICKNESS LFH(CM)	11.5	13	10
pH-LFH	0.0		
-A	6.0	6.0	6.0
-B	6.5	6.0	7.0
-C	8.0	8.0	8.0
TEXTURE-A/1		SIL	S
-B/2		C	C
-C/3		CL	CL
COARSE FRAGMENTS-B(%)	2.5	2	3
SEEPAGE(*) & MOTTLING(CM)		0	0
ROOTING DEPTH(CM)	55.0	40	70
VEGETATION :			
ASSOCIATION			
STAND AGE(YR)	71.0	63	79
CANOPY HEIGHT(M)	17.0	17	17
MEAN ANNUAL INCREMENT	0.0		
STRATA COVERAGE(%)-A	70.0	80	60
-B	67.0	35	99
-C	60.0	60	60
-G	14.0	3	25
-D	3.0	5	1
-L	0.5	0	1
SURFACE SUBST(%)-DEAD WOOD	6.0	7	5
-BEDROCK	0.0	0	0
-STONES	0.0	0	0
-MIN.SOIL	0.0	0	0
-ORGANIC	94.0	93	95
-OPEN WATER	0.0	0	0
BIOMASS(KG/HA)-FORBS	378.0	411	345
-GRAMINOIDS	95.5	90	101
-BROWSE	36.0		36

TITLE : MW PB1 POPULUS BALSAMIFERA/CORNUS STOLONIFERA-ALNUS TABLE 5

		5G
PLOT NUMBER	MEAN	WO14
TOWNSHIP & RANGE		7412
MERIDIAN		W 6
MAPSHEET		83
		M 5
PHYSIOGRAPHIC SUBREGION		BP
GEOMORPHIC SYSTEM		
ECOSECTION		M1
ELEVATION(MASL)	820.0	820
SLOPE(%)	2.0	2
ASPECT(DEG)		38
ENVIRONMENT/SOILS :		
ECOLOGICAL MOISTURE REGIME		M
NUTRIENT REGIME		M
OVERLYING MATERIAL		Mu
UNDERLYING MATERIAL		
EROSION/DEPOSITION		
SOIL SUBGROUP		O
SOIL GREAT GROUP		GL
SOIL DRAINAGE		MW
SOLUM THICKNESS(CM)	60.0	60
TYPE & DEPTH TO RESTRICT(CM)		
THICKNESS LFH(CM)	18.0	18
pH-LFH	0.0	
-A	6.5	6.5
-B	7.0	7.0
-C	8.0	8.0
TEXTURE-A/1		SL
-B/2		CL
-C/3		CL
COARSE FRAGMENTS-B(%)	13.0	13
SEEPAGE(*) & MOTTLING(CM)		
ROOTING DEPTH(CM)	30.0	30
VEGETATION :		
ASSOCIATION		
STAND AGE(YR)	98.0	98
CANOPY HEIGHT(M)	24.0	24
MEAN ANNUAL INCREMENT	0.0	
STRATA COVERAGE(%)-A	50.0	50
-B	99.0	99
-C	20.0	20
-G	0.0	0
-D	1.0	1
-L	0.0	0
SURFACE SUBST(%)-DEAD WOOD	17.0	17
-BEDROCK	0.0	0
-STONES	0.0	0
-MIN.SOIL	0.0	0
-ORGANIC	83.0	83
-OPEN WATER	0.0	0
BIOMASS(KG/HA)-FORBS	114.0	114
-GRAMINOIDS	0.0	0
-BROWSE	27.0	27

ENVIRONMENT/SOILS-VEGETATION TABLES RESOURCE INVENTORY

TITLE : MW SwA PICEA GLAUCA-POPULUS TREMULOIDES/VIBURNUM EDULE-ROSA SPP TABLE 6

		5G	5G	5G	5G
PLOT NUMBER	MEAN	W007	W015	W020	W023
TOWNSHIP & RANGE		7413	7412	7313	7313
MERIDIAN		W 6	W 6	W 6	W 6
MAPSHEET		83 M 5	83 M 5	83 M 5	83 M 5
PHYSIOGRAPHIC SUBREGION		BP	BP	BP	BP
GEOMORPHIC SYSTEM					
ECOSECTION		M3	M1	M3	M4
ELEVATION(MASL)	818.3	810		820	825
SLOPE(%)	2.3	2	2	5	0
ASPECT(DEG)		82	48	100	
ENVIRONMENT/SOILS :					
ECOLOGICAL MOISTURE REGIME		SHG	M	M	SHG
NUTRIENT REGIME		M	PM	SHG	M
OVERLYING MATERIAL		Mu	Mu	Mu	Mu
UNDERLYING MATERIAL					
EROSION/DEPOSITION					
SOIL SUBGROUP		O	O	O	GL
SOIL GREAT GROUP		GL	GL	GL	GL
SOIL DRAINAGE		MW	MW	MW	I
SOLUM THICKNESS(CM)	76.7	65	85		80
TYPE & DEPTH TO RESTRICT(CM)					L 43
THICKNESS LFH(CM)	12.5	15	8	12	15
pH-LFH	0.0				
-A	6.4	7.0	5.5	6.5	6.5
-B	6.1	5.0	4.5	7.0	8.0
-C	8.0	8.0	8.0		8.0
TEXTURE-A/1		L	SiL	SL	SiL
-B/2		SiCL	C	C	C
-C/3		CL	CL		CL
COARSE FRAGMENTS-B(%)	8.0	12	5	10	5
SEEPAGE(*) & MOTTLING(CM)		0			0
ROOTING DEPTH(CM)	48.8	35	40	50	70
VEGETATION :					
ASSOCIATION					
STAND AGE(YR)	112.3	106	98	133	112
CANOPY HEIGHT(M)	23.0	22	19	27	24
MEAN ANNUAL INCREMENT	0.0				
STRATA COVERAGE(%)-A	73.8	70	70	85	70
-B	57.5	70	20	75	65
-C	56.3	75	35	70	45
-G	1.8	0	4	3	0
-D	37.5	65	57	19	9
-L	0.0	0	0	0	0
SURFACE SUBST(%)-DEAD WOOD	7.8	17	4	5	5
-BEDROCK	0.0	0	0	0	0
-STONES	0.0	0	0	0	0
-MIN.SOIL	0.0	0	0	0	0
-ORGANIC	92.3	83	96	95	95
-OPEN WATER	0.0	0	0	0	0
BIOMASS(KG/HA)-FORBS	234.3	235	226	238	238
-GRAMINOIDS	5.5	0	22	0	0
-BROWSE	9.5	10			9

ENVIRONMENT/SOILS-VEGETATION TABLES

TABLE 7

TITLE : MW Sw PICEA GLAUCA/HYLOCOMIUM-PLEUROZIUM

		5G
PLOT NUMBER	MEAN	W057
TOWNSHIP & RANGE		6914
MERIDIAN		W 6
MAPSHEET		83 M 4
PHYSIOGRAPHIC SUBREGION		BP
GEOMORPHIC SYSTEM		
ECOSECTION		GL1
ELEVATION(MASL)	880.0	880
SLOPE(%)	3.0	3
ASPECT(DEG)		28
ENVIRONMENT/SOILS :		
ECOLOGICAL MOISTURE REGIME		SHG
NUTRIENT REGIME		M
OVERLYING MATERIAL		Mu
UNDERLYING MATERIAL		
EROSION/DEPOSITION		
SOIL SUBGROUP		GL
SOIL GREAT GROUP		GL
SOIL DRAINAGE		I
SOLUM THICKNESS(CM)	80.0	80
TYPE & DEPTH TO RESTRICT(CM)		
THICKNESS LFH(CM)	10.0	10
pH-LFH	0.0	
-A	6.0	6.0
-B	7.0	7.0
-C	8.0	8.0
TEXTURE-A/1		L
-B/2		C
-C/3		CL
COARSE FRAGMENTS-B(%)	5.0	5
SEEPAGE(*) & MOTTLING(CM)		0
ROOTING DEPTH(CM)	50.0	50
VEGETATION :		
ASSOCIATION		
STAND AGE(YR)	104.0	104
CANOPY HEIGHT(M)	22.0	22
MEAN ANNUAL INCREMENT	0.0	
STRATA COVERAGE(%)-A	65.0	65
-B	9.0	9
-C	30.0	30
-G	8.0	8
-D	85.0	85
-L	0.0	0
SURFACE SUBST(%)-DEAD WOOD	10.0	10
-BEDROCK	0.0	0
-STONES	0.0	0
-MIN.SOIL	0.0	0
-ORGANIC	90.0	90
-OPEN WATER	0.0	0
BIOMASS(KG/HA)-FORBS	96.0	96
-GRAMINOIDS	45.0	45
-BROWSE	3.0	3

ENVIRONMENT/SOILS-VEGETATION TABLES

RESOURCE INVENTORY

TITLE : MW Sb PICEA MARIANA/LEDUM GROENLANDICUM/SPHAGNUM SPP

TABLE 8

		5G	5G
PLOT NUMBER	MEAN	WO10	WO47
TOWNSHIP & RANGE		7412	7111
MERIDIAN		W 6	W 6
MAPSHEET		83	83
		M 5	M 4
PHYSIOGRAPHIC SUBREGION			BP
GEOMORPHIC SYSTEM			
ECOSECTION			01
ELEVATION(MASL)	800.0	800	800
SLOPE(%)	0.0	0	0
ASPECT(DEG)			
ENVIRONMENT/SOILS :			
ECOLOGICAL MOISTURE REGIME		HD	SHD
NUTRIENT REGIME		SM	SM
OVERLYING MATERIAL		Ov	O1
UNDERLYING MATERIAL		GLu	
EROSION/DEPOSITION			
SOIL SUBGROUP		T	ME
SOIL GREAT GROUP		M	F
SOIL DRAINAGE		VP	VP
SOLUM THICKNESS(CM)	0.0		
TYPE & DEPTH TO RESTRICT(CM)		W 80	W 80
THICKNESS LFH(CM)	160.0	160	160
pH-LFH	0.0		
-A	4.0	4.0	4.0
-B	5.5	6.0	5.0
-C	7.0	7.0	
TEXTURE-A/1			
-B/2			
-C/3		SiL	
COARSE FRAGMENTS-B(%)	0.0		
SEEPAGE(*) & MOTTLING(CM)		135	
ROOTING DEPTH(CM)	7.0	7	
VEGETATION :			
ASSOCIATION		O	
STAND AGE(YR)	79.0		79
CANOPY HEIGHT(M)	6.0	6	6
MEAN ANNUAL INCREMENT	0.0		
STRATA COVERAGE(%)-A	10.0	15	5
-B	90.0	85	95
-C	14.5	18	11
-G	0.5	0	1
-D	20.5	0	41
-L	561.0	1060	62
SURFACE SUBST(%)-DEAD WOOD	1.0	2	0
-BEDROCK	0.0	0	0
-STONES	0.0	0	0
-MIN.SOIL	0.0	0	0
-ORGANIC	99.0	98	100
-OPEN WATER	0.0	0	0
BIOMASS(KG/HA)-FORBS	0.0	0	0
-GRAMINOIDS	0.0	0	0
-BROWSE	0.0	0	0

TITLE : MW WL SALIX-CAREX SHRUBLAND TABLE 9

		5G	5G
PLOT NUMBER	MEAN	W051	W037
TOWNSHIP & RANGE		7013	7113
MERIDIAN		W 6	W 6
MAPSHEET		83	83
		M 4	M 4
PHYSIOGRAPHIC SUBREGION			BP
GEOMORPHIC SYSTEM			
ECOSECTION			G1
ELEVATION(MASL)	832.5	845	820
SLOPE(%)	0.5	0	1
ASPECT(DEG)			250
ENVIRONMENT/SOILS :			
ECOLOGICAL MOISTURE REGIME		HD	SHD
NUTRIENT REGIME		PM	PM
OVERLYING MATERIAL		GF1	Ob
UNDERLYING MATERIAL			L1
EROSION/DEPOSITION			
SOIL SUBGROUP		R	T
SOIL GREAT GROUP		G	M
SOIL DRAINAGE		P	VP
SOLUM THICKNESS(CM)	0.0		
TYPE & DEPTH TO RESTRICT(CM)		W 40	W130
THICKNESS LFH(CM)	82.5	35	130
pH-LFH	0.0		
-A	7.3	8.0	6.5
-B	7.0		7.0
-C	7.8	8.0	7.5
TEXTURE-A/1			
-B/2			
-C/3		LS	C
COARSE FRAGMENTS-B(%)	0.0		
SEEPAGE(*) & MOTTLING(CM)		35	130
ROOTING DEPTH(CM)	0.0		
VEGETATION :			
ASSOCIATION			
STAND AGE(YR)	0.0		
CANOPY HEIGHT(M)	2.0	1	3
MEAN ANNUAL INCREMENT	0.0		
STRATA COVERAGE(%)-A	0.0	0	0
-B	82.5	75	90
-C	25.0	15	35
-G	36.0	12	60
-D	75.0	85	65
-L	4.0	8	0
SURFACE SUBST(%)-DEAD WOOD	1.5	0	3
-BEDROCK	0.0	0	0
-STONES	0.0	0	0
-MIN.SOIL	0.0	0	0
-ORGANIC	98.5	100	97
-OPEN WATER	0.0	0	0
BIOMASS(KG/HA)-FORBS	111.0	74	148
-GRAMINOIDS	563.0	523	603
-BROWSE	56.0		56

ENVIRONMENT/SOILS-VEGETATION TABLES

RESOURCE INVENTORY
TABLE 10

TITLE : MW Lt LARIX LARICINA

	MEAN	
PLOT NUMBER		5G W060
TOWNSHIP & RANGE		6913
MERIDIAN		W 6
MAPSHEET		83 L 13
PHYSIOGRAPHIC SUBREGION		BP
GEOMORPHIC SYSTEM		
ECOSECTION		GL2
ELEVATION(MASL)	830.0	830
SLOPE(%)	1.0	1
ASPECT(DEG)		18
ENVIRONMENT/SOILS :		
ECOLOGICAL MOISTURE REGIME		SX
NUTRIENT REGIME		SM
OVERLYING MATERIAL		GFv
UNDERLYING MATERIAL		Mu
EROSION/DEPOSITION		
SOIL SUBGROUP		BR
SOIL GREAT GROUP		GL
SOIL DRAINAGE		W
SOLUM THICKNESS(CM)	85.0	85
TYPE & DEPTH TO RESTRICT(CM)		
THICKNESS LFH(CM)	3.0	3
pH-LFH	0.0	
-A	4.5	4.5
-B	7.5	7.5
-C	8.0	8.0
TEXTURE-A/1		S
-B/2		SiCL
-C/3		SiCL
COARSE FRAGMENTS-B(%)	0.0	0
SEEPAGE(*) & MOTTLING(CM)		
ROOTING DEPTH(CM)	45.0	45
VEGETATION :		
ASSOCIATION		
STAND AGE(YR)	74.0	74
CANOPY HEIGHT(M)	11.0	11
MEAN ANNUAL INCREMENT	0.0	
STRATA COVERAGE(%)-A	35.0	35
-B	85.0	85
-C	80.0	80
-G	9.0	9
-D	15.0	15
-L	0.0	0
SURFACE SUBST(%)-DEAD WOOD	5.0	5
-BEDROCK	0.0	0
-STONES	0.0	0
-MIN.SOIL	0.0	0
-ORGANIC	95.0	95
-OPEN WATER	0.0	0
BIOMASS(KG/HA)-FORBS	90.0	90
-GRAMINOIDS	72.0	72
-BROWSE	0.0	

VEGETATION TABLES

RESOURCE INVENTORY
EDMONTON, ALBERTA

08:35:02 SEP 2, 1986

RESEARCH BRANCH

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NO CODING ERRORS IN DATA SET
TOTAL NUMBER OF PLOTS IS  64
TOTAL NUMBER OF SPECIES IN EACH LAYER IS   6   6  13   7  25  84  15  27   7
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LEVEL	ZONE	ASSC	TYPE
ECOSYM UNIT	MW	A1	

POPULUS TREMULOIDES/SHEPHERDIA CANADENSIS

PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)

RESOURCE INVENTORY
EDMONTON, ALBERTA
08:35:02 SEP 2, 1986
TABLE 1 PAGE 1

	AVERAGE		5G		5G		5G		5G		5G		5G		5G		5G		5G		5G		5G		5G		3G		5G		3G	
PLOT NUMBER	VALUE		W006		W018		W036		W038		W042		W043		W045		W046		W055		W016		W033		W052		P208		W053		P079	
NUMBER OF SPECIES PER PLOT	33.5		30		30		36		38		32		37		34		32		34		32		32		37		31		36		31	
SPECIES	%P	MC	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV
A1 LAYER																																
1 POPU TRE	100.0	47.0	40	2	60	2	25	3	50	3	15	3	65	3	70	3	70	3	45	2	45	1	45		55	3	70	2	30	3	20	2
2 POPU BAL	40.0	2.4							10	2			5	3							7	2			5	3	2	2	7	3		
3 PICE GLA	13.3	0.5																									2	2			5	2
4 PINU CON	6.7	0.3	5	1																												
A2 LAYER																																
POPU TRE	100.0	15.3	5	2	5	2	35	3	10	2	45	3	15	3	10	3	15	3	10	2	15	2	5	2	10	3	5	2	40	3	5	2
POPU BAL	40.0	2.4							5	2			10	3							3	2	7	2			1	2	10	3		
5 SALI BEB	20.0	0.9					5	2							5	3	3	3														
PICE GLA	13.3	0.5			7	2																									1	2
PINU CON	6.7	0.1																													1	2
E LAYER																																
6 EURH PUL	20.0	1.0					5								5										5							
7 PYLA POL	20.0	1.0					5								5				5													
8 BRAC CAM	13.3	0.7																	5										5			
9 AULA PAL	6.7	0.3													5																	
10 CLAD COR	6.7	0.3									5																					
11 HYPO PHY	6.7	0.3									5																					
12 USNE SOR	6.7	0.1							1																							
B1 LAYER																																
SALI BEB	60.0	2.8					5	3	5	2	7	2	3	1	2	3			3	1			5	2	2	2			10	3		
POPU TRE	26.7	0.7							2	2			5	2							2	2	2	2								
PICE GLA	13.3	0.1									1	3															1	2				
13 ALNU CRI	6.7	0.2	3	2																												
14 AMEL ALN	6.7	0.1																							1	2						
POPU BAL	6.7	0.1																													1	2
B2 LAYER																																
15 SHEP CAN	100.0	34.1	35	2	40	2	15	3	50	3	35	3	30	3	35	3	15	2	70	3	60	2	20	2	25	3	35	2	15	2	32	2
16 ROSA ACI	100.0	21.4	10	2	20	2	10	2	10	2	10	2	45	2	25	4	7	2	15	2	10	2	35	2	60	3	13	2	50	3	1	2
17 VIBU EDU	86.7	5.8	7	2	10	1	2	1	3	2	15	3	3	2	3	3			15	2	5	1	7	2	2	2	10	2	5	2		
SALI BEB	80.0	2.7			5	2	7	3	5	2	3	2	1	1	2	2	2	2	2	1	3	2	7	2	1	2			3	1		
AMEL ALN	60.0	1.3	1	2	1	1							3	3	5	3			3	2			1	2			3	2	1	3	1	2
18 LONI INV	53.3	1.8	2	2	5	1	2	2			3	2	3	2							2	1					3	2	7	2		
19 SPIR BET	46.7	2.4	5	2					2	2					5	3			3	2							13	2	5	3	3	2
POPU TRE	40.0	0.6							2	3											2	2	1	2	1	3			1	2	2	2
20 LONI DIO	33.3	0.7	3	2	2	1									2	3			1	2					2	2						
21 SYMP ALB	33.3	0.6			2	1									3	3			2	2			1	2							1	2
PICE GLA	26.7	0.3							1	3	1	3															1	2			1	2
22 CORN STO	13.3	0.3			3	1							2	2																		
23 LEDU GRO	13.3	0.3															2	2			2	1										
24 VACC MYR	13.3	0.2					2	2																							1	2
POPU BAL	13.3	0.1																									1	2			1	2
25 SALI GLA	6.7	0.1																													1	2
C LAYER																																
26 LATH OCH	100.0	2.9	2	2	3	2	2	2	3	3	1	3	5	3	5	0	2	3	5	3	2	1	3	2	3	3	2	2	5	3	1	2
27 LINN BOR	93.3	10.5	20	2	25	2	20	3			15	3	15	3	7	3	25	3	3	2	5	2	5	2	7	3	2	2	7	3	1	2
28 CORN CAN	93.3	9.8	3	2	7	2	3	3	10	3	7	3	7	3	10	3	30	3	5	2	7	2	3	2	20	4	10	2	25	3		
29 PYRO ASA	93.3	3.3	5	2	2	2	2	2	5	3	2	2	1	2	7	3	5	2	5	3	2	2	3	2	5	3	1	2	5	3		

LEVEL | ZONE | ASSC | TYPE
ECOSYM UNIT | MW | A1 |

POPULUS TREMULOIDES/SHEPHERDIA CANADENSIS

PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)

PLOT NUMBER	AVERAGE VALUE		5G W006		5G W018		5G W036		5G W038		5G W042		5G W043		5G W045		5G W046		5G W055		5G W016		5G W033		5G W052		3G P208		5G W053		3G P079	
NUMBER OF SPECIES PER PLOT	33.5		30		30		36		38		32		37		34		32		34		32		32		37		31		36		31	
SPECIES	%P	MC	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV
30 GALI BOR	93.3	1.5	1	2	2	2	1	2	1	3			2	3	3	3	5	3	1	2	1	1	2	2	1	2	1	2	1	2	1	2
31 EPIL ANG	86.7	3.9	15	3	7	2	1	2	5	4	1	3	1	3	2	3			4	3	2	2	7	2	1	3	8	2	5	3		
32 FRAG VIR	86.7	3.1	2	2	7	2			3	3	2	2	7	3	2	3	2	3			1	1	5	2	10	4	1	2	3	3	1	2
33 ASTE CON	80.0	2.5			2	2	1	2	7	4			1	2	5	3	4	3	2	3			2	2	1	3	6	2	1	3	5	2
34 VICI AME	80.0	1.1	1	2			1	2	1	3			2	3	3	3	1	3	1	2	2	2	1	2	1	3	1	2	2	3		
35 VACC CAE	73.3	8.5	10	2			20	3	30	4	15	3			10	3	15	3			7	2	5	2	5	3			5	3	5	2
36 ORTH SEC	73.3	0.7					1	3	1	3	1	3	1	2	1	3	1	3	1	2	1	1			1	3	1	2	1	3		
37 ASTE CIL	66.7	1.7	2	2	2	1	1	2					5	3	2	2	2	2	1	2	1	1			3	2			7	2		
38 CAST MIN	66.7	1.5					2	3	3	3	2	3			1	3	5	3	2	2			1	2	1	3			1	2	4	2
39 PETA PAL	66.7	1.1	1	2	2	1	1	2	5	3			1	2			1	2	1	2			1	2	2	3			1	2		
40 MAIA CAN	66.7	0.9	1	2					1	2	2	2			1	2	1	2	1	2	1	1					1	2	3	2	1	2
41 RUBU PUB	60.0	1.9			2	2			3	3			5	3					1	2	1	1	2	2	5	3	2	2	7	3		
42 MERT PAN	60.0	1.2	2	2	3	2			2	2			2	2	2	2							2	2	2	2	1	2	2	2		
43 ARCT UVA	33.3	3.3					15	3			7	3			7	2					2	1									18	2
44 ARNI COR	33.3	0.3	1	2			1	2			1	2									1	1					1	2				
45 ACHI MIL	26.7	0.3			1	1	1	2									1	2							1	2						
46 HIER UMB	26.7	0.3							1	3					1	3	1	3					1	2								
47 HABE ORB	20.0	0.2											1	3							1	2			1	3						
48 HIER TRI	20.0	0.2													1	3	1	3											1	3		
49 LYCO COM	13.3	0.5									5	4									2	2										
50 VIOL REN	13.3	0.2											2	3															1	2		
51 HABE VIR	13.3	0.1	1	2									1	3																		
52 ELYM INN	6.7	0.5																	7	2												
53 ACTA RUB	6.7	0.1			1	2																										
54 DISP TRA	6.7	0.1																									1	2				
55 GENT AMA	6.7	0.1					1	2																								
56 LILI PHI	6.7	0.1																													1	2
57 MELA LIN	6.7	0.1																													1	2
58 MITE NUD	6.7	0.1							1	3																						
59 SMIL RAC	6.7	0.1											1	3																		
60 STRE AMP	6.7	0.1											1	2																		
61 TRIF PRA	6.7	0.1															1	3														
62 VIOL ORB	6.7	0.1																							1	2						
G LAYER																																
ELYM INN	86.7	6.1	2	2			20	3	25	4	3	2	3	3	7	3	15	3			1	2	7	2	3	2	2	2	2	2	1	2
63 CALA CAN	80.0	4.1	5	2	20	2	5	2	5	3	3	2	2	3			10	3	1	2	5	2	2	2	1	2			3	2		
64 AGRO TRA	6.7	0.1											1	3																		
65 CALA STR	6.7	0.1																													1	2
66 TRIS SPI	6.7	0.1															1	3														
D LAYER																																
67 HYLO SPL	66.7	4.1	5	2	7	2			7	3	10	3	5	2			3	3	2	2	15	2	3	2	5	2						
BRAC CAM	53.3	2.2							5	3	3	3	2	2			5	3	5	2			3	2	5	3			5	3		
68 DICR UND	26.7	0.4			3	2	1	2	1	3	1	3																				
69 PLEU SCH	20.0	0.9	5	2													5	3	3	2												
AULA PAL	13.3	0.5					5	2	2	3																						
70 PTIL CRI	13.3	0.3																	3	2					2	3						
71 DICR POL	13.3	0.2					1	2			2	2																				
72 RHYT LOR	6.7	0.3			5	2																										

LEVEL	ZONE	ASSC	TYPE
ECOSYM UNIT	MW	A1	

POPULUS TREMULOIDES/SHEPHERDIA CANADENSIS

RESOURCE INVENTORY
EDMONTON, ALBERTA
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PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V) TABLE 1 PAGE 3

	AVERAGE		5G	5G	5G	5G	5G	5G	5G	5G	5G	5G	5G	5G	3G	5G	3G
PLOT NUMBER	VALUE		W006	W018	W036	W038	W042	W043	W045	W046	W055	W016	W033	W052	P208	W053	P079
NUMBER OF SPECIES PER PLOT	33.5		30	30	36	38	32	37	34	32	34	32	32	37	31	36	31
SPECIES	%P	MC	%C SV	%C SV	%C SV	%C SV	%C SV	%C SV	%C SV	%C SV	%C SV	%C SV	%C SV	%C SV	%C SV	%C SV	%C SV
EURH PUL	6.7	0.2											3 2				
73 BRAC STA	6.7	0.1													2 2		
74 PLAG CUS	6.7	0.1												1 3			
75 POLY JUN	6.7	0.1					1 3										
L LAYER																	
76 PELT APH	20.0	0.3			1 2					2 3	1 3						
CLAD COR	13.3	0.1			1 2	1 3											
77 CLAD GRA	6.7	0.1															1 2
78 CLAD MIT	6.7	0.1															1 2

LEVEL	ZONE	ASSC	TYPE
ECOSYM UNIT	MW	A3	

POPULUS TREMULOIDES/VIBURNUM EDULE-ROSA SPP.

RESOURCE INVENTORY
EDMONTON, ALBERTA
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PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V) TABLE 2 PAGE 1

PLOT NUMBER	AVERAGE VALUE		5G W009		5G W019		5G W027		5G W028		5G W029		5G W030		5G W031		5G W032		5G W040		5G W041		5G W044		5G W048		5G W056		5G W059		5G W024	
NUMBER OF SPECIES PER PLOT	34.7		28		27		46		33		29		37		34		36		36		41		32		27		34		41		35	
SPECIES	%P	MC	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV
A1 LAYER																																
1 POPU TRE	100.0	45.6	50	1	50	2	40	2	55	2	30	1	30	2	65	2	50	2	50	4	40	3	50	3	30	3	40	3	50	4	50	2
2 POPU BAL	46.7	4.4					10	2	5	2							5	2	10	3			5	3			25	3	5	3		
3 PINU CON	6.7	0.7																														
4 PICE GLA	3.3	0.2																														
A2 LAYER																																
POPU TRE	80.0	15.6			10	2	20	2	5	2	35	2	40	2	10	2			30	3	30	3	10	3	30	3	20	3	15	2	5	2
POPU BAL	43.3	3.9					5	1							2	2			7	3			25	3			5	2	5	3		
5 SALI BEB	6.7	0.8																														
6 ALNU CRI	3.3	0.1																														
E LAYER																																
7 PYLA POL	20.0	1.0					5								5		5				5		5								5	
8 EURH PUL	20.0	0.9													5		5				5											
9 PTIL PUL	13.3	0.8					5						5		10												5					
10 BRAC CAM	13.3	0.7																											5			
11 HYPO PHY	10.0	0.5															1															
12 AULA PAL	6.7	0.3					5				5																					
13 PLAG CUS	6.7	0.2																														
14 HYLO SPL	3.3	0.2																														
B1 LAYER																																
SALI BEB	66.7	5.5			3	1					15		25	1					5	1	7	2	7	1			1	1	2	2		
POPU TRE	40.0	2.9			5	2					15	2	40	1	1	2	5	2			5	3			2				5	2		
POPU BAL	23.3	0.7					5	2			5	2																	1	2		
15 AMEL ALN	16.7	0.3					1	2																								
ALNU CRI	13.3	0.6					7	1	5	2											2	2										
PICE GLA	6.7	0.2																							2	3						
B2 LAYER																																
16 ROSA ACI	100.0	35.5	25	2	65	2	20	2	45	2	45		25	1	40	2	30	2	50	3	35	2	45	4	20	2	35	2	45	3	20	2
17 SHEP CAN	83.3	8.8	15	2					3	2	5	2	2	1	1	2	20	2	15	2	7	3			10	2	20	3	40	3	10	2
18 VIBU EDU	73.3	12.2	2	2			60	2	20	2	40	2	5	1	15	2	5	2	15	2	2	2							10	2	5	1
SALI BEB	66.7	1.9			2	1							2	2			5	2	2	1	2	2	3	2	5	2	3	2	1	2	1	2
AMEL ALN	63.3	1.2					2	2			2	2	1	1	1	2											5	2	2	3	1	2
19 LONI INV	60.0	2.9	2	2			3	2					7	1					7	2	10	2			5	2	5	2	2	2		
20 SYMP ALB	36.7	1.7			5	2									15	2	3	2	5	2	2	3	3	3			10	3				
PICE GLA	36.7	0.8			1	2	1	2																					1	3		
21 SPIR BET	26.7	0.9					2	2	5	2							1	2			3	2							7	2	2	1
POPU TRE	23.3	0.4									3	1																	1	2		
POPU BAL	23.3	0.3							1	2					1	2							1	2								
22 CORN STO	20.0	0.8					5	2											2	2							7	2				
23 LONI DIO	20.0	0.3	1	2			1	1													2	3					3	3				
24 RUBU IDA	10.0	0.8																			3	3	15	3								
25 LEDU GRO	10.0	0.3																											2	2		
ALNU CRI	6.7	0.2					3	1													2	2										
26 RIBE OXY	3.3	0.1																			2	3										
27 RIBE LAC	3.3	0.0					1	1																								
28 VACC MYR	3.3	0.0																														
C LAYER																																
29 CORN CAN	100.0	7.7	5	2	10	2	5	2	10	2	5	2	5	2	5	2	5	2	7	3	7	3	2	3	5	3	7	3	25	3	10	2

LEVEL	ZONE	ASSC	TYPE
ECOSYM UNIT	MW	A3	

POPULUS TREMULOIDES/VIBURNUM EDULE-ROSA SPP.

RESOURCE INVENTORY
EDMONTON, ALBERTA
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PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V) TABLE 2 PAGE 2

	AVERAGE VALUE		5G		5G		5G		5G		5G		5G		5G		5G		5G		5G		5G		5G		5G		5G		5G	
PLOT NUMBER			WO09		WO19		WO27		WO28		WO29		WO30		WO31		WO32		WO40		WO41		WO44		WO48		WO56		WO59		WO24	
NUMBER OF SPECIES PER PLOT	34.7		28		27		46		33		29		37		34		36		36		41		32		27		34		41		35	
SPECIES	%P	MC	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV
30 LATH OCH	100.0	4.6	7	2	7	2	5	2	10	2	10	2	3	2	5	2	5	2	2	3	5	3	7	3	2	3	5	3	7	3	2	2
31 FRAG VIR	100.0	4.1	3	2	5	2	2	2	5	2	2	2	5	2	1	2	2	1	3	2	7	3	3	2	10	3	10	3	2	3	5	2
32 GALI BOR	93.3	1.8	1	2			2	2	3	2	2	2	1	2	2	2	2	1	2	3			5	3	3	3	2	3	1	3	2	2
33 PETA PAL	90.0	1.5	1	2			2	2	3	2	2	2	2	2	1	1	1	2	1	2	2	2			1	2	2	3	1	2	2	1
34 RUBU PUB	86.7	4.7	3	2	3	2	3	2	3	2	2	2	2	2	2	2	3	2	7	3	5	3	5	3	5	3	5	3	3	2	5	2
35 ASTE CIL	86.7	3.6	2	2	5	2			2	2			3	2	2	2	1	2	7	2	5	2	10	2	5	2	10	3	5	2	2	2
36 LINN BOR	83.3	7.5	15	2			3	2	7	2	3	2	15	2	5	2			2	1	30	3			5	3	20	3	10	3	5	2
37 EPIL ANG	83.3	6.4	10	2			3	2	7	2	7	2	10	2	7	2	7	2	7	3	1	3	2	3			1	3	10	3	15	0
38 ASTE CON	83.3	2.7	5	2	5	2	1	2	2	2	5	2	2	2	5	2	7	2	2	3			10	4			5	3	3	3	3	2
39 MERT PAN	83.3	2.6	2	2	2	2	5	1	2	2	5	2			3	2	5	2	3	2	5	2	3	2			2	3	7	2	2	1
40 PYRO ASA	83.3	2.6	5	2	15	2	3	2	7	2	1	2	2	2	7	2	1	2	2	2	3	2	1	2					2	3	7	2
41 VICI AME	76.7	1.8	5	2	3	2	1	2	2	2	10	2			3	2	2	2	1	3			5	3			2	3	1	3	1	2
42 ACHI MIL	53.3	0.6	1	2	1	1					1	2	1	2	1	1									1	2					1	1
43 ORTH SEC	50.0	0.6	1	2					2	2			1	2													1	3	1	3	1	2
44 VACC CAE	46.7	6.1			5	2							5	2			10	2							30	3					5	2
45 MAIA CAN	40.0	0.9			1	1	1	2			2	1			1	2	1	2					5	2								
46 VIOL REN	36.7	0.4					1	1					1	2			1	2	2	2	1	3									1	2
47 ACTA RUB	33.3	0.4					2	2			1	2	1	2					1	3									1	3		
48 HIER UMB	33.3	0.3			1	2	1	2	1	2							1	2							1	2						
49 CAST MIN	26.7	0.4							2	2									1	2					2	3			1	3		
50 HIER TRI	26.7	0.3																			1	2										
51 ARCT UVA	23.3	0.9																							7	3						
52 SMIL RAC	23.3	0.4					1	2	5	2									1	3	1	3					1	3	1	3		
53 HABE VIR	23.3	0.2	1	2									1	2			1	2														
54 MITE NUD	20.0	0.2							1	2			1	2							1	2										
55 TARA OFF	20.0	0.2			2	2																	1	2	1	2	1	2				
56 THAL OCC	13.3	1.0			20	2															5	2	4	3								
57 GALI TRI	13.3	0.2	3	2			1	2											1	3												
58 OSMO DEP	13.3	0.2					1	2											1	3	1	3										
59 SOLI CAN	13.3	0.2																					2	3	1	3						
60 HABE ORB	13.3	0.1																														
61 ARAL NUD	10.0	0.3							5	2									1	3									2	3		
62 ARNI COR	10.0	0.1											1	2			1	2													1	1
63 HALE DEF	10.0	0.1															1	1														
64 VIOL CAN	6.7	0.2																					2	3								
65 GOOD REP	6.7	0.1																													1	1
66 LYCO ANN	6.7	0.1					1	2																								
67 CALA CAN	3.3	0.1					2	2																								
68 VACC VIT	3.3	0.1																														
69 EQUI ARV	3.3	0.0																														
70 EQUI SCI	3.3	0.0																														
71 EQUI SYL	3.3	0.0																														
72 GENT AMA	3.3	0.0																														
73 GEOC LIV	3.3	0.0																														
74 HERA LAN	3.3	0.0																														
75 OXYT DEF	3.3	0.0																									1	3				
76 PEDI LAB	3.3	0.0																														
77 SMIL STE	3.3	0.0																			1	2										

LEVEL	ZONE	ASSC	TYPE
ECOSYM UNIT	MW	A3	

POPULUS TREMULOIDES/VIBURNUM EDULE-ROSA SPP.

PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)

RESOURCE INVENTORY
EDMONTON, ALBERTA
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TABLE 2 PAGE 3

PLOT NUMBER	AVERAGE VALUE		5G W009		5G W019		5G W027		5G W028		5G W029		5G W030		5G W031		5G W032		5G W040		5G W041		5G W044		5G W048		5G W056		5G W059		5G W024	
NUMBER OF SPECIES PER PLOT	34.7		28		27		46		33		29		37		34		36		36		41		32		27		34		41		35	
SPECIES	%P	MC	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV
78 STRE AMP	3.3	0.0							1	2																						
79 VIOL ORB	3.3	0.0																														
G LAYER																																
CALA CAN	93.3	10.0	5	2	25	2			15	2	40	2	3	2	3	2	5	2	2	3	5	3	5	2	30	3	7	3	5	3	2	2
80 ELYM INN	66.7	5.7	1	2	15	2					3	2	5	2	2	2	10	2					5	2	15	3	15	3	7	3	1	2
81 AGRO TRA	16.7	0.2	2	2																			1	3	1	3					1	2
82 POA PAL	3.3	0.1																														
83 CARE CAP	3.3	0.0																														
D LAYER																																
HYLO SPL	66.7	2.0					2	2	1	2			7	2			2	2	3	2							5	3	5	3	3	2
BRAC CAM	53.3	1.4			2	1			2	2	5	2			3	2	2	1	2	2	7	3	3	3	1	2			2	3		
AULA PAL	33.3	0.4			2	1							1	2			1	2			1	3										
EURH PUL	23.3	0.5	5	2																							2	3			1	2
84 PTIL CRI	20.0	0.3					2	1							1	2					2	2										
85 PLEU SCH	16.7	1.0	3	2									10	2																		
86 DICR UND	16.7	0.2					1	2					1	2							1	2										
87 DICR POL	6.7	0.1					1	2																							1	2
88 RHYT LOR	3.3	0.2																														
89 MNIU SPP	3.3	0.0																											1	3		
90 PHIL FON	3.3	0.0																														
PLAG CUS	3.3	0.0																														
91 PLAG DRU	3.3	0.0																														
PTIL PUL	3.3	0.0																														
L LAYER																																
92 PELT APH	23.3	0.4					1	2							2	2			2	3	1	3	3	3							1	2
93 CLAD COR	16.7	0.2							1	2			1	2	1	2																
94 CLAD MIT	3.3	0.0																														
95 PELT MAL	3.3	0.0																														

LEVEL	ZONE	ASSC	TYPE
ECOSYM UNIT	MW	A3	

POPULUS TREMULOIDES/VIBURNUM EDULE-ROSA SPP.

PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)

RESOURCE INVENTORY
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TABLE 2 PAGE 4

	5G		5G		5G		5G		5G		5G		5G		5G		3G		5G		5G		5G		5G		5G		5G	
PLOT NUMBER	W050		W011		W012		W017		W021		W034		W035		W054		P212		W001		W008		W022		W025		W049		W003	
NUMBER OF SPECIES PER PLOT	35		29		30		34		40		41		34		44		33		32		27		35		41		33		38	
SPECIES	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV
A1 LAYER	-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----	
1 POPU TRE	55	3	50	2	70	2	5C	1	55	2	15	1	55	2	55	3	65	2	40	2	40	2	50	2	30	2	50	3	7	2
2 POPU BAL									10	1			5	2			1	2			25	2	10	2	10	2			5	2
3 PINU CON									15	2									5	2										
4 PICE GLA											5	1																		
A2 LAYER	-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----	
POPU TRE	20	3	5	2							40	2	5	2	20	3	1	2			10	2	7	2	30	2	30	3	40	2
POPU BAL					10	1			2	2	10	1	10	2			15	2							5				15	2
5 SALI BEB											20	1	3	2																
6 ALNU CRI									2	2																				
E LAYER	-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----	
7 PYLA POL																														
8 EURH PUL									1						5										5					
9 PTIL PUL																														
10 BRAC CAM											5				5														5	
11 HYPO PHY													10														5			
12 AULA PAL																														
13 PLAG CUS															1												5			
14 HYLO SPL															5															
B1 LAYER	-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----	
SALI BEB	15	3	1	2							7	1	10	1	2	2	10	2	1	1	5	2	1	2	15	2	3	2	30	2
POPU TRE			1	2							3	1													3	2	2	2		
POPU BAL											3	1											1	2	2	2			5	2
15 AMEL ALN													2	2	2	2					3	1	2	2						
ALNU CRI									5	2																				
PICE GLA															3	3														
B2 LAYER	-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----	
16 ROSA ACI	30	2	60	2	45	2	15	1	20	2	25	1	60	2	55	3	4	2	45	2	70	3	20	2	5	2	55	3	10	2
17 SHEP CAN	25	3	3	2	15	2					3	1	6	1	2	2	3	2	5	1	5	2	7	2	5	1	35	3	1	2
18 VIBU EDU	1	2			2	2	15	1	70	2			15	2	3	2	7	2	2	2	10	2	60	2			3	2		
SALI BEB	5	3	3	2	3	1			3	2	2	1	3	2	2	2			2	1			2	2	5	2				
AMEL ALN	2	3	1	2	3	1	2	1	1	2	1	2	2	1	3	2			2	1	2	1	1	2			3	2		
19 LONI INV	3	3	2	2			5	1	10	2	2	1			7	2	6	2			3	2	5	2					2	2
20 SYMP ALB									2	2							1	2			2	2					2	3		
PICE GLA	2	3			1	2	3	2			5	2			5	3	1	2							3	2			1	2
21 SPIR BET																			2	1							5	3		
POPU TRE					1	2	3	2	1	2	1	1													1	2				
POPU BAL									1	2													2	2	1	2			1	2
22 CORN STO					1	1			5	2							5	2												
23 LONI DIO													2	2							1	2								
24 RUBU IDA									5	2																				
25 LEDU GRO							3	1																	5	1				
ALNU CRI																														
26 RIBE OXY																														
27 RIBE LAC																														
28 VACC MYR																									1	2				
C LAYER	-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----		-----	
29 CORN CAN	7	3	5	2	3	1	5	2	7	2	3	2	3	2	10	3	1	2	15	2	3	2	15	2	5	2	7	3	30	3

LEVEL	ZONE	ASSC	TYPE
ECOSYM UNIT	MW	A3	

POPULUS TREMULOIDES/VIBURNUM EDULE-ROSA SPP.

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PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V) TABLE 2 PAGE 5

	5G		5G		5G		5G		5G		5G		5G		5G		3G		5G		5G		5G		5G		5G		5G	
PLOT NUMBER	W050		W011		W012		W017		W021		W034		W035		W054		P212		W001		W008		W022		W025		W049		W003	
NUMBER OF SPECIES PER PLOT	35		29		30		34		40		41		34		44		33		32		27		35		41		33		38	
SPECIES	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV
30 LATH OCH	5	3	3	2	5	2	10	2	5	2	1	2	3	2	5	3	1	2	5	2	3	2	5	2	2	2	1	3	2	2
31 FRAG VIR	5	3	5	2	3	2	2	2	7	2	3	2	5	2	10	3	2	2	1	2	2	2	2	2	2	2	7	3	2	2
32 GALI BOR	2	3	2	2	1	1	1	2	2	2	2	2	1	2	3	3	1	2	2	2	2	2	1	2	1	2	3	3	1	2
33 PETA PAL	1	2	1	2	2	2	1	2	2	2	3	2	2	1	2	2	1	2	1	2	2	2	1	1	3	1			2	2
34 RUBU PUB			5	2	10	2	3	1	45	2			2	2	7	3	2	2			3	2	3	2	1	2			5	2
35 ASTE CIL	2	2	2	2	2	2	2	2			10	2	5	2	10	3	3	2	2	1	3	2	1	2	5	2	3	3		
36 LINN BOR	15	3			5	2	15	2	3	2	15	2			3	3	3	2	5	2	10	2	7	2	5	1	15	3	5	2
37 EPIL ANG			7	2	10	2	7	2	7	2	2	1	15	2	7	3	4	2	2	1			2	2	2	2			40	3
38 ASTE CON	1	3			7	2			2	2	1	2	2	2	1	3	4	2	2	2	2	2	2	1			1	3	2	2
39 MERT PAN			3	2	2	2	1	1	3	2	2	1	5	2	1	2	1	2			5	2	5	2			1	2	2	2
40 PYRO ASA					1	2	1	2	1	2	3	2			1	3	1	2	2	2	3	2	5	2	2	2	2	2	1	2
41 VICI AME	1	2			3	2	1	2	2	2	1	1	1	1					1	2	5	2	1	2	1	2	1	3		
42 ACHI MIL			1	2	1	1							1	1	1	2	1	2	1	2					1	2	1	2	2	2
43 ORTH SEC	1	2			1	2			1	2	1	1					1	2	1	2			2	2			1	3	1	2
44 VACC CAE	5	3					15	2					2	2	20	3			5	3			3	2	30	2	40	4	7	2
45 MAIA CAN	3	2					1	2							2	2			1	2	3	2					5	3		
46 VIOL REN			1	2							1	2			1	2	1	2			1	2								
47 ACTA RUB			2	2			1	2	1	2	1	2											1	2						
48 HIER UMB	1	2	1	2	1	2	1	2			1	2																		
49 CAST MIN	2	3													1	3									1	2	1	3		
50 HIER TRI			1	2									1	2	1	3			1	2					1	2	1	3	1	2
51 ARCT UVA	5	3									5	2			2	2			3	1					2	2			2	2
52 SMIL RAC									1	2																				
53 HABE VIR																			1	2			1	2	1	2			1	2
54 MITE NUD							1	2	2	2																			1	2
55 TARA OFF											1	2															1	2		
56 THAL OCC																											2	3		
57 GALI TRI									1	2																				
58 OSMO DEP									2	2																				
59 SOLI CAN			1	2									2	2																
60 HABE ORB	1	3							1	2													1	2	1	2				
61 ARAL NUD																														
62 ARNI COR																														
63 HALE DEF																									1	2			1	2
64 VIOL CAN									5	2																				
65 GOOD REP															1	3														
66 LYCO ANN							1	2																						
67 CALA CAN																														
68 VACC VIT																									2	2				
69 EQUI ARV																													1	2
70 EQUI SCI																	1	2												
71 EQUI SYL																							1	2						
72 GENT AMA																									1	2				
73 GEOC LIV																									1	2				
74 HERA LAN									1	2																				
75 OXYT DEF																														
76 PEDI LAB																			1	2										
77 SMIL STE																														

LEVEL	ZONE	ASSC	TYPE
ECOSYM UNIT	MW	A3	

POPULUS TREMULOIDES/VIBURNUM EDULE-ROSA SPP.

PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)

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	5G		5G		5G		5G		5G		5G		5G		5G		3G		5G		5G		5G		5G		5G		5G	
PLOT NUMBER	WO50		WO11		WO12		WO17		WO21		WO34		WO35		WO54		P212		WO01		WO08		WO22		WO25		WO49		WO03	
NUMBER OF SPECIES PER PLOT	35		29		30		34		40		41		34		44		33		32		27		35		41		33		38	
SPECIES	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV
78 STRE AMP																														
79 VIOL ORB					1	2																								
G LAYER																														
CALA CAN			10	2	20	2	25	2	5	2	2	2	20	2	20	3	1	2	15	2	2	2	2	2	20	2	5	3	1	2
80 ELYM INN	40	3	2	2			1	1			5	2	5	2	15	3			3	2							20	3	1	2
81 AGRO TRA			1	2																										
82 POA PAL							2	2																						
83 CARE CAP																	1	2												
D LAYER																														
HYLO SPL	7	3	1	2	2	2	7	2			1	1	1	2	5	3	1	2	2	1			1	2	2	2			3	2
BRAC CAM	3	3					2	1					3	2									1	2			1	3	2	2
AULA PAL	1	3					2	2			1	1	1	2	2	3									1	2				
EURH PUL	3	3					2	2							2	3	1	2												
84 PTIL CRI	2	3							2	2	1	1																		
85 PLEU SCH	10	3													5	3													3	2
86 DICR UND	1	3													1	3														
87 DICR POL																														
88 RHYT LOR							7	2																						
89 MNIU SPP																														
90 PHIL FON					1	2																								
PLAG CUS															1	2														
91 PLAG DRU											1	1																		
PTIL PUL																			1	1										
L LAYER																														
92 PELT APH			1	2																										
93 CLAD COR	2	3									1	2																		
94 CLAD MIT																													1	2
95 PELT MAL																	1	2												

LEVEL	ZONE	ASSC	TYPE
ECOSYM UNIT	MW	A5	

POPULUS TREMULOIDES/ALNUS CRISPA

PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)

RESOURCE INVENTORY
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	AVERAGE		5G		5G		5G		5G		5G		3G	
PLOT NUMBER	VALUE		W002		W004		W058		W039		W013		P207	
NUMBER OF SPECIES PER PLOT	33.3		23		31		39		36		33		38	
SPECIES	%P	MC	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV
A1 LAYER														
1 POPU TRE	100.0	59.2	70	2	60	1	45	3	60	2	75	1	45	2
2 POPU BAL	16.7	1.7											10	2
A2 LAYER														
POPU TRE	100.0	15.5	25	2	3	2	10	3	30	2	15	2	10	2
3 SALI BEB	16.7	0.8			5	1								
POPU BAL	16.7	0.3											2	2
E LAYER														
4 BRAC CAM	50.0	2.5	5				5		5					
5 AULA PAL	16.7	0.8					5							
6 PLAG ELL	16.7	0.2					1							
B1 LAYER														
7 ALNU CRI	83.3	32.5	65	3	5	2	65	3	50	4	10	2		
SALI BEB	33.3	5.5			30	1	3	2						
8 PICE GLA	16.7	0.8							5	3				
POPU BAL	16.7	0.5											3	2
9 AMEL ALN	16.7	0.3									2	2		
POPU TRE	16.7	0.3							2	2				
B2 LAYER														
ALNU CRI	100.0	17.7	10	2	10	2	3	3	5	3	70	2	8	2
10 SPIR BET	100.0	15.5	10	2	20	2	50	3	3	3	5	1	5	2
11 VIBU EDU	100.0	8.7	15	2	5	2	3	2	4	1	5	1	20	2
12 ROSA ACI	100.0	7.7	5	2	5	2	10	3	15	3	3	1	8	2
13 LONI INV	66.7	2.2					3	3	3	2	2	1	5	2
14 SHEP CAN	50.0	2.0							2	1	7	2	3	2
AMEL ALN	33.3	0.8									2	2	3	2
15 CORN STO	16.7	2.2											13	2
16 LEDU GRO	16.7	0.3			2	1								
PICE GLA	16.7	0.3							2	3				
POPU TRE	16.7	0.3									2	1		
17 SYMP ALB	16.7	0.3									2	2		
POPU BAL	16.7	0.2											1	2
18 RIBE OXY	16.7	0.2											1	2
SALI BEB	16.7	0.2					1	2						
C LAYER														
19 CORN CAN	100.0	14.0	15	2	1	1	15	3	40	4	10	2	3	2
20 LINN BOR	100.0	5.2	5	2	1	1	2	3	10	2	7	2	6	2
21 ASTE CON	100.0	5.0	1	1	20	3	1	3	2	3	5	2	1	2
22 EPIL ANG	100.0	4.2	1	1	5	2	2	3	5	3	7	2	5	2
23 PYRO ASA	100.0	4.2	2	1	1	1	15	3	2	3	3	2	2	2
24 RUBU PUB	100.0	3.8	1	2	10	2	2	3	5	3	3	2	2	2
25 LATH OCH	100.0	3.2	5	2	1	1	3	3	2	3	5	2	3	2
26 FRAG VIR	83.3	2.3	2	1			1	2	7	3	2	2	2	2
27 PETA PAL	83.3	1.5	1	1	1	1			5	2	1	2	1	2
28 MAIA CAN	83.3	1.2	1	1	2	1	2	3			1	1	1	2
29 ARAL NUD	66.7	10.8	50	3			5	3			5	2	5	2
30 ASTE CIL	66.7	1.3			1	1	2	3	3	2	2	2		
31 MERT PAN	66.7	1.3			1	1			1	2	2	1	4	2

LEVEL	ZONE	ASSC	TYPE
ECOSYM UNIT	MW	A5	

POPULUS TREMULOIDES/ALNUS CRISPA

PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)

RESOURCE INVENTORY
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PLOT NUMBER	AVERAGE VALUE		5G W002		5G W004		5G W058		5G W039		5G W013		3G P207	
NUMBER OF SPECIES PER PLOT	33.3		23		31		39		36		33		38	
SPECIES	%P	MC	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV
32 GALI BOR	66.7	0.8					1	3	1	3	1	2	2	2
33 ORTH SEC	66.7	0.7	1	1	1	1	1	2	1	3				
34 VACC CAE	33.3	0.7							3	3			1	2
35 SMIL RAC	33.3	0.5	2	2	1	1								
36 ACHI MIL	33.3	0.3							1	2	1	1		
37 ARNI COR	33.3	0.3			1	1					1	1		
38 CAST MIN	33.3	0.3					1	3	1	3				
39 HABE VIR	33.3	0.3			1	1	1	2						
40 VICI AME	33.3	0.3									1	2	1	2
41 ARCT UVA	16.7	0.8							5	3				
42 VALE DIO	16.7	0.7											4	2
43 THAL OCC	16.7	0.3			2	2								
44 ACTA RUB	16.7	0.2											1	2
45 DISP TRA	16.7	0.2											1	2
46 GOOD REP	16.7	0.2					1	3						
47 HABE ORB	16.7	0.2					1	4						
48 OSMO CHI	16.7	0.2			1	1								
49 STRE AMP	16.7	0.2					1	3						
G LAYER														
50 CALA CAN	66.7	0.8	1	1	1	1			2	3	1	2		
51 ELYM INN	16.7	0.3							2	3				
52 CALA STR	16.7	0.2											1	2
D LAYER														
53 HYLO SPL	66.7	2.2			2	1	7	3	3	3	1	1		
54 PLEU SCH	33.3	1.2			2	1	5	2						
55 DICR POL	33.3	0.3					1	3	1	3				
56 PTIL CRI	33.3	0.3					1	3			1	1		
BRAC CAM	16.7	0.8					5	3						
AULA PAL	16.7	0.3							2	3				
57 BRAC STA	16.7	0.2											1	2
58 DREP UNC	16.7	0.2											1	2
59 EURH PUL	16.7	0 2	1	1										
60 PELT CAN	16.7	0.2					1	3						
61 PLAG DRU	16.7	0.2											1	2
62 PYLA POL	16.7	0.2					1	3						
L LAYER														
63 PELT APH	33.3	0.8					2	3	3	3				
64 CLAD MIT	16.7	0.2			1	2								
PELT CAN	16.7	0.2											1	2

LEVEL	ZONE	ASSC	TYPE
ECOSYM UNIT	MW	A7	

POPULUS TREMULOIDES/LONICERA INVOLUCRATA/RUBUS PUBESCENS

RESOURCE INVENTORY
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PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V) TABLE 4 PAGE 1

PLOT NUMBER	AVERAGE VALUE		5G W005		5G W026	
NUMBER OF SPECIES PER PLOT	38.0		30		46	
SPECIES	%P	MC	%C	SV	%C	SV
A1 LAYER						
1 POPU BAL	100.0	60.0	75	3	45	2
A2 LAYER						
2 POPU TRE	100.0	27.5	40	2	15	2
POPU BAL	50.0	3.5			7	2
E LAYER						
3 BRAC CAM	50.0	2.5	5			
4 EURH PUL	50.0	2.5			5	
5 HYPO PHY	50.0	2.5			5	
6 CLAD COR	50.0	0.5			1	
B1 LAYER						
7 SALI BEB	100.0	5.0	5	2	5	2
8 ALNU CRI	50.0	22.5			45	2
POPU TRE	50.0	3.5			7	2
POPU BAL	50.0	2.5			5	2
B2 LAYER						
9 ROSA ACI	100.0	25.0	30	3	20	2
10 AMEL ALN	100.0	2.0	1	2	3	2
POPU TRE	100.0	2.0	1	2	3	2
SALI BEB	100.0	1.5	1	2	2	2
11 VIBU EDU	50.0	20.0			40	2
12 LONI INV	50.0	5.0			10	2
13 RUBU IDA	50.0	5.0			10	2
POPU BAL	50.0	2.5			5	2
14 RIBE OXY	50.0	2.5			5	2
15 LONI DIO	50.0	0.5			1	2
C LAYER						
16 EPIL ANG	100.0	15.0	15	3	15	2
17 MERT PAN	100.0	15.0	15	2	15	2
18 RUBU PUB	100.0	4.0	5	2	3	2
19 SOLI CAN	100.0	3.5	2	2	5	2
20 CORN CAN	100.0	3.0	3	2	3	2
21 ASTE CON	100.0	2.5	3	2	2	2
22 FRAG VIR	100.0	2.5	2	2	3	2
23 LATH OCH	100.0	2.5	2	2	3	2
24 PETA PAL	100.0	2.5	2	2	3	2
25 ACTA RUB	100.0	2.0	2	1	2	2
26 DELP GLA	100.0	2.0	3	3	1	2
27 GALI BOR	100.0	2.0	3	2	1	2
28 VICI AME	100.0	2.0	2	2	2	2
29 ACHI MIL	100.0	1.5	1	2	2	2
30 ASTE CIL	100.0	1.5	1	1	2	2
31 EQUI ARV	100.0	1.0	1	2	1	2
32 HERA LAN	50.0	5.0			10	2
33 LINN BOR	50.0	1.5			3	2
34 THAL OCC	50.0	1.5	3	2		
35 GALI TRI	50.0	1.0			2	2
36 PYRO ASA	50.0	1.0			2	2

LEVEL	ZONE	ASSC	TYPE
ECOSYM UNIT	MW	A7	

POPULUS TREMULOIDES/LONICERA INVOLUCRATA/RUBUS PUBESCENS

RESOURCE INVENTORY
EDMONTON, ALBERTA
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PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V) TABLE 4 PAGE 2

	AVERAGE		5G		5G	
PLOT NUMBER	VALUE		W005		W026	
NUMBER OF SPECIES PER PLOT	38.0		30		46	
SPECIES	%P	MC	%C	SV	%C	SV
37 GENT AMA	50.0	0.5	1	1		
38 HIER UMB	50.0	0.5			1	2
39 OSMO DEP	50.0	0.5			1	2
40 VIOL REN	50.0	0.5			1	2
G LAYER						
41 CALA CAN	100.0	14.0	3	2	25	2
42 ELYM INN	50.0	1.5	3	2		
D LAYER						
BRAC CAM	100.0	1.5	2	2	1	2
43 HYLO SPL	50.0	1.5	3	2		
L LAYER						
44 PELT APH	50.0	0.5			1	2

LEVEL	ZONE	ASSC	TYPE
ECOSYM UNIT	MW	PB1	

POPULUS BALSAMIFERA/CORNUS STOLONIFERA-ALNUS

RESOURCE INVENTORY
EDMONTON, ALBERTA
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PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V) TABLE 5 PAGE 1

PLOT NUMBER	AVERAGE VALUE		5G WO14	
NUMBER OF SPECIES PER PLOT	25.0		25	
SPECIES	%P	MC	%C	SV
A1 LAYER				
1 POPU BAL	100.0	45.0	45	2
A2 LAYER				
POPU BAL	100.0	7.0	7	2
B1 LAYER				
2 ALNU CRI	100.0	10.0	10	2
3 SALI BEB	100.0	10.0	10	2
B2 LAYER				
ALNU CRI	100.0	50.0	50	2
4 CORN STO	100.0	35.0	35	2
5 VIBU EDU	100.0	20.0	20	1
6 LONI INV	100.0	5.0	5	1
7 ROSA ACI	100.0	5.0	5	1
8 SYMP ALB	100.0	3.0	3	1
9 RIBE OXY	100.0	1.0	1	1
C LAYER				
10 ARAL NUD	100.0	7.0	7	2
11 EPIL ANG	100.0	5.0	5	2
12 ASTE CON	100.0	2.0	2	2
13 LINN BOR	100.0	2.0	2	1
14 PETA PAL	100.0	2.0	2	1
15 ASTE CIL	100.0	1.0	1	1
16 GALI TRI	100.0	1.0	1	1
17 MERT PAN	100.0	1.0	1	1
18 MITE NUD	100.0	1.0	1	2
19 ORTH SEC	100.0	1.0	1	1
20 OSMO DEP	100.0	1.0	1	2
21 PYRO ASA	100.0	1.0	1	2
22 RUBU PUB	100.0	1.0	1	1
D LAYER				
23 DREP UNC	100.0	1.0	1	1

LEVEL	ZONE	ASSC	TYPE
ECOSYM UNIT	MW	SwA	

PICEA GLAUCA-POPULUS TREMULOIDES/VIBURNUM EDULE-ROSA SPP

RESOURCE INVENTORY
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PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V) TABLE 6 PAGE 1

PLOT NUMBER	AVERAGE VALUE		5G W007		5G W015		5G W020		5G W023	
NUMBER OF SPECIES PER PLOT	32.3		27		30		37		35	
SPECIES	%P	MC	%C	SV	%C	SV	%C	SV	%C	SV
A1 LAYER										
1 PICE GLA	100.0	46.3	50	2	45	2	60		30	2
2 POPU TRE	75.0	20.0	20	2			20		40	2
3 POPU BAL	25.0	2.5					10			
A2 LAYER										
PICE GLA	100.0	10.0	15	2	5	2	10		10	2
POPU TRE	75.0	13.8	5	2	40	1	10			
E LAYER										
4 HYPO PHY	25.0	2.5							10	
5 USNE SOR	25.0	2.5							10	
6 MNIU GLA	25.0	0.3					1			
B1 LAYER										
PICE GLA	25.0	0.8							3	
B2 LAYER										
7 VIBU EDU	75.0	29.0	55	2	1	1	60	2		
8 ROSA ACI	75.0	12.0	20	2	3	1	25	2		
9 LONI INV	50.0	6.3	10	1			15	2		
10 SHEP CAN	50.0	4.0			15	1	1	2		
11 SYMP ALB	50.0	2.0					7	2	1	2
PICE GLA	50.0	0.5			1	1	1	2		
POPU TRE	50.0	0.5					1	2	1	2
12 AMEL ALN	25.0	3.8	15	2						
13 CORN STO	25.0	0.5					2	2		
14 RIBE OXY	25.0	0.3					1	1		
C LAYER										
15 CORN CAN	100.0	15.5	25	2	10	2	25	2	2	1
16 RUBU PUB	100.0	12.8	15	2	1	1	20	2	15	2
17 LINN BOR	100.0	8.0	15	2	10	2	5	2	2	1
18 LATH OCH	100.0	3.0	1	2	5	2	5	2	1	2
19 PYRO ASA	100.0	2.8	1	2	5	2	2	2	3	2
20 PETA PAL	100.0	2.5	2	2	1	2	2	2	5	2
21 EPIL ANG	100.0	2.0	1	2	3	2	1	2	3	2
22 GALI BOR	100.0	1.0	1	2	1	1	1	2	1	2
23 MERT PAN	75.0	4.8	7	2			7	2	5	2
24 MITE NUD	75.0	2.3	5	1			3	2	1	2
25 ORTH SEC	75.0	1.0	2	2	1	1			1	2
26 ASTE CON	50.0	2.5	5	2			5	2		
27 ACTA RUB	50.0	1.5					1	2	5	2
28 ASTE CIL	50.0	0.8			1	2			2	1
29 FRAG VIR	50.0	0.8			1	1			2	2
30 GALI TRI	50.0	0.5	1	2					1	1
31 GOOD REP	50.0	0.5			1	2			1	1
32 MAIA CAN	50.0	0.5	1	1	1	1				
33 VIOL ORB	50.0	0.5					1	2	1	2
34 VIOL REN	50.0	0.5					1	2	1	2
35 RUBU IDA	25.0	6.3	25	2						
36 THAL OCC	25.0	1.3					5	2		
37 VACC CAE	25.0	1.3			5	2				

LEVEL	ZONE	ASSC	TYPE
ECOSYM UNIT	MW	SwA	

PICEA GLAUCA-POPULUS TREMULOIDES/VIBURNUM EDULE-ROSA SPP

PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)

PLOT NUMBER	AVERAGE VALUE		5G W007		5G W015		5G W020		5G W023	
NUMBER OF SPECIES PER PLOT	32.3		27		30		37		35	
SPECIES	%P	MC	%C	SV	%C	SV	%C	SV	%C	SV
38 ARCT UVA	25.0	0.5			2	1				
39 ARNI COR	25.0	0.3			1	1				
40 ASTR STR	25.0	0.3							1	2
41 EQUI SYL	25.0	0.3	1	2						
42 HABE OBT	25.0	0.3							1	2
43 HABE ORB	25.0	0.3							1	2
44 HABE VIR	25.0	0.3			1	2				
45 OSMO DEP	25.0	0.3							1	2
46 PEDI LAB	25.0	0.3			1	2				
47 STRE AMP	25.0	0.3	1	1						
48 TIAR TRI	25.0	0.3					1	2		
G LAYER										
49 ELYM INN	50.0	1.0			2	1	2	1		
50 CALA CAN	50.0	0.8			2	1	1	2		
D LAYER										
51 HYLO SPL	100.0	25.8	45	3	45	2	10	2	3	2
52 PLEU SCH	50.0	6.3	20	2			5	2		
53 BRAC CAM	50.0	1.0					2	2	2	2
54 EURH PUL	50.0	1.0					2	2	2	2
55 PTIL CRI	50.0	0.8			2	2			1	2
56 RHYT LOR	25.0	2.5			10	2				
57 PLAG DRU	25.0	0.3							1	2

LEVEL	ZONE	ASSC	TYPE
ECOSYM UNIT	MW	Sw	

PICEA GLAUCA/HYLOCOMIUM-PLEUROZIUM

RESOURCE INVENTORY
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PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V) TABLE 7 PAGE 1

PLOT NUMBER	AVERAGE VALUE		5G W057	
NUMBER OF SPECIES PER PLOT	40.0		40	
SPECIES	%P	MC	%C	SV
A1 LAYER				
1 PINU CON	100.0	30.0	30	4
2 PICE GLA	100.0	20.0	20	4
3 POPU TRE	100.0	7.0	7	3
A2 LAYER				
PICE GLA	100.0	15.0	15	2
E LAYER				
4 HYPO PHY	100.0	10.0	10	
5 USNE SOR	100.0	10.0	10	
6 CETR HAL	100.0	5.0	5	
B1 LAYER				
7 ALNU CRI	100.0	5.0	5	3
B2 LAYER				
8 VIBU EDU	100.0	7.0	7	2
9 ROSA ACI	100.0	3.0	3	2
10 LONI INV	100.0	2.0	2	3
POPU TRE	100.0	2.0	2	2
11 SPIR BET	100.0	2.0	2	2
12 SHEP CAN	100.0	1.0	1	2
C LAYER				
13 CORN CAN	100.0	5.0	5	3
14 LATH OCH	100.0	5.0	5	3
15 VACC CAE	100.0	5.0	5	3
16 EPIL ANG	100.0	3.0	3	3
17 MERT PAN	100.0	3.0	3	3
18 RUBU PUB	100.0	3.0	3	3
19 ASTE CON	100.0	2.0	2	3
20 LINN BOR	100.0	2.0	2	3
21 MAIA CAN	100.0	2.0	2	2
22 PETA PAL	100.0	2.0	2	3
23 PYRO ASA	100.0	2.0	2	3
24 ARNI COR	100.0	1.0	1	2
25 FRAG VIR	100.0	1.0	1	3
26 GALI BOR	100.0	1.0	1	3
27 GOOD OBL	100.0	1.0	1	4
28 ORTH SEC	100.0	1.0	1	3
29 OSMO DEP	100.0	1.0	1	3
30 VIOL REN	100.0	1.0	1	2
G LAYER				
31 ELYM INN	100.0	7.0	7	3
32 CALA CAN	100.0	1.0	1	3
D LAYER				
33 HYLO SPL	100.0	40.0	40	4
34 PLEU SCH	100.0	20.0	20	
35 PTIL CRI	100.0	20.0	20	4
36 EURH PUL	100.0	5.0	5	3
37 DICR UND	100.0	2.0	2	3
38 DICR FRA	100.0	1.0	1	3

LEVEL	ZONE	ASSC	TYPE
ECOSYM UNIT	MW	Sb	

PICEA MARIANA/LEDUM GROENLANDICUM/SPHAGNUM SPP

RESOURCE INVENTORY
EDMONTON, ALBERTA
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PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V) TABLE 8 PAGE 1

PLOT NUMBER	AVERAGE VALUE		5G W010		5G W047	
NUMBER OF SPECIES PER PLOT	13.0		14		12	
SPECIES	%P	MC	%C	SV	%C	SV
A1 LAYER						
1 PICE MAR	100.0	10.0	15	1	5	3
B1 LAYER						
PICE MAR	100.0	27.5	25	1	30	3
B2 LAYER						
2 LEDU GRO	100.0	67.5	85	2	50	3
PICE MAR	100.0	25.0	35	2	15	3
C LAYER						
3 VACC VIT	100.0	6.5	10	2	3	3
4 RUBU CHA	100.0	5.0	5	2	5	3
5 OXYC MIC	100.0	3.0	3	2	3	3
6 MAIA CAN	50.0	0.5	1	2		
G LAYER						
7 ERIO VAG	50.0	0.5			1	2
D LAYER						
8 SPHA FUS	100.0	15.0	5	2	25	3
9 PLEU SCH	50.0	2.5			5	3
10 DICR UND	50.0	1.5	3	2		
11 AULA PAL	50.0	1.0			2	3
L LAYER						
12 CLAD MIT	100.0	40.0	20	3	60	4
13 CLAD COR	50.0	7.5	15	2		
14 CLAD GRA	50.0	2.5	5	2		
15 CLAD POL	50.0	2.5	5	2		

LEVEL	ZONE	ASSC	TYPE
ECOSYM UNIT	MW	WL	

SALIX-CAREX SHRUBLAND

RESOURCE INVENTORY
EDMONTON, ALBERTA
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PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V) TABLE 9 PAGE 1

PLOT NUMBER	AVERAGE VALUE		5G W051		5G W037	
NUMBER OF SPECIES PER PLOT	30.5		20		41	
SPECIES	%P	MC	%C	SV	%C	SV
B1 LAYER						
1 SALI BEB	50.0	42.5			85	4
B2 LAYER						
SALI BEB	100.0	5.5	1	3	10	4
2 BETU GLA	50.0	35.0	70	3		
3 SALI MYR	50.0	27.5	55	3		
4 LONI INV	50.0	3.5			7	2
5 ROSA ACI	50.0	0.5	1	3		
C LAYER						
6 FRAG VIR	100.0	3.5	2	3	5	3
7 ASTE CIL	100.0	2.5	3	3	2	3
8 SOLI CAN	100.0	2.0	2	3	2	3
9 ACHI MIL	100.0	1.5	1	3	2	1
10 GALI BOR	100.0	1.5	2	3	1	2
11 VALE DIO	50.0	2.5			5	3
12 VIOL REN	50.0	2.5			5	3
13 ADEN BIC	50.0	1.5			3	2
14 GEUM TRI	50.0	1.5			3	4
15 STEL LON	50.0	1.5			3	3
16 ANTE PAR	50.0	1.0	2	2		
17 ARCT UVA	50.0	1.0	2	3		
18 GALI TRI	50.0	1.0			2	3
19 HEDY ALP	50.0	1.0	2	3		
20 RUBU ARC	50.0	1.0			2	3
21 SMIL TRI	50.0	1.0			2	3
22 ASTE BOR	50.0	0.5			1	3
23 ASTE ENG	50.0	0.5			1	2
24 EQUI ARV	50.0	0.5			1	3
25 GALI TRF	50.0	0.5			1	3
26 GENT AMA	50.0	0.5			1	3
27 HABE VIR	50.0	0.5			1	3
28 HALE DEF	50.0	0.5			1	2
29 MENT ARV	50.0	0.5			1	3
30 MERT PAN	50.0	0.5	1	2		
31 MITE NUD	50.0	0.5			1	2
32 PARN FIM	50.0	0.5			1	3
33 PEDI GRO	50.0	0.5			1	2
34 POTE PAL	50.0	0.5			1	3
35 RUME OCC	50.0	0.5			1	3
36 SENE PAU	50.0	0.5			1	3
G LAYER						
37 JUNC BAL	50.0	30.0	60	3		
38 CARE CUR	50.0	20.0			40	4
39 AGRO SCA	50.0	5.0			10	3
40 CARE AQU	50.0	3.5			7	3
41 CARE DIS	50.0	3.5			7	3
42 CARE CAP	50.0	2.5	5	3		
43 POA COM	50.0	2.5			5	3

LEVEL	ZONE	ASSC	TYPE
ECOSYM UNIT	MW	WL	

SALIX-CAREX SHRUBLAND

RESOURCE INVENTORY
EDMONTON, ALBERTA
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PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V) TABLE 9 PAGE 2

	AVERAGE		5G		5G	
PLOT NUMBER	VALUE		W051		W037	
NUMBER OF SPECIES PER PLOT	30.5		20		41	
SPECIES	%P	MC	%C	SV	%C	SV
44 AGRO TRA	50.0	1.5	3	2		
45 CARE VAG	50.0	1.5	3	2		
46 CALA CAN	50.0	1.0			2	3
D LAYER						
47 AULA PAL	100.0	25.0	35	3	15	3
48 CLIM DEN	50.0	20.0			40	4
49 TOME NIT	50.0	20.0	40	4		
50 CLAD MIT	50.0	1.5	3	2		
51 DREP ADU	50.0	1.5			3	2
52 THUI REC	50.0	1.5			3	2
53 PLAG ELL	50.0	1.0			2	2

LEVEL	ZONE	ASSC	TYPE
ECOSYM UNIT	MW	Lt	

LARIX LARICINA

RESOURCE INVENTORY
EDMONTON, ALBERTA
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PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V) TABLE 10 PAGE 1

PLOT NUMBER	AVERAGE VALUE		5G W060	
NUMBER OF SPECIES PER PLOT	49.0		49	
SPECIES	%P	MC	%C	SV
A1 LAYER				
1 LARI LAR	100.0	20.0	20	3
2 PICE GLA	100.0	10.0	10	3
3 POPU BAL	100.0	10.0	10	3
A2 LAYER				
4 POPU TRE	100.0	2.0	2	3
B1 LAYER				
PICE GLA	100.0	30.0	30	3
POPU BAL	100.0	20.0	20	3
POPU TRE	100.0	7.0	7	3
5 SALI BEB	100.0	5.0	5	3
B2 LAYER				
6 SHEP CAN	100.0	60.0	60	2
7 VACC MYR	100.0	50.0	50	3
8 LEDU GRO	100.0	10.0	10	3
PICE GLA	100.0	5.0	5	3
9 ROSA ACI	100.0	5.0	5	3
10 SALI MYR	100.0	5.0	5	3
POPU BAL	100.0	3.0	3	3
11 BETU GLA	100.0	2.0	2	3
12 LONI INV	100.0	2.0	2	3
SALI BEB	100.0	2.0	2	3
LARI LAR	100.0	1.0	1	3
13 LONI DIO	100.0	1.0	1	3
14 PINU CON	100.0	1.0	1	3
POPU TRE	100.0	1.0	1	3
C LAYER				
15 VACC CAE	100.0	35.0	35	3
16 ARCT UVA	100.0	10.0	10	3
17 EPIL ANG	100.0	3.0	3	3
18 ASTE CIL	100.0	2.0	2	2
19 CAST MIN	100.0	2.0	2	3
20 CORN CAN	100.0	2.0	2	3
21 HIER TRI	100.0	2.0	2	3
22 LINN BOR	100.0	2.0	2	2
23 PETA PAL	100.0	2.0	2	2
24 ACHI MIL	100.0	1.0	1	2
25 ARNI SPP	100.0	1.0	1	2
26 FRAG VIR	100.0	1.0	1	2
27 GALI BOR	100.0	1.0	1	3
28 GENT AMA	100.0	1.0	1	3
29 GEOC LIV	100.0	1.0	1	2
30 HALE DEF	100.0	1.0	1	3
31 LATH OCH	100.0	1.0	1	3
32 MAIA CAN	100.0	1.0	1	2
33 ORTH SEC	100.0	1.0	1	2
34 PYRO ASA	100.0	1.0	1	3
35 SOLI CAN	100.0	1.0	1	3

LEVEL	ZONE	ASSC	TYPE
ECOSYM UNIT	MW	Lt	

LARIX LARICINA

RESOURCE INVENTORY
EDMONTON, ALBERTA
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PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V) TABLE 10 PAGE 2

PLOT NUMBER	AVERAGE VALUE		5G WO60	
NUMBER OF SPECIES PER PLOT	49.0		49	
SPECIES	%P	MC	%C	SV
G LAYER				
36 CALA CAN	100.0	5.0	5	2
37 AGRO TRA	100.0	2.0	2	3
D LAYER				
38 PLEU SCH	100.0	10.0	10	3
39 AULA PAL	100.0	1.0	1	2
L LAYER				
40 PELT APH	100.0	10.0	10	3
41 CLAD MIT	100.0	5.0	5	3

SUMMARY VEGETATION TABLE

RESOURCE INVENTORY

EDMONTON, ALBERTA

PRESENCE CLASS AND MEAN SPECIES SIGNIFICANCE

ECOSYSTEMATIC UNITS SPECIES	MW A1	MW A3	MW A5	MW A7	MW PB1	MW SwA	MW Sw	MW Sb	MW WL	MW Lt
ACHI MIL	II 0.3	III 0.6	II 0.3	V 1.5					V 1.5	V 1.0
ACTA RUB	I 0.1	II 0.4	I 0.2	V 2.0		III 1.5				
ADEN BIC									III 1.5	
AGRO SCA									III 5.0	
AGRO TRA	I 0.1	I 0.2							III 1.5	V 2.0
ALNU CRI	I 0.2	I 0.6	V 17.7	III 22.5	V 50.0		V 5.0			
AMEL ALN	III 1.3	IV 1.2	II 0.8	V 2.0		II 3.8				
ANTE PAR									III 1.0	
ARAL NUD		I 0.3	IV 10.8		V 7.0					
ARCT UVA	II 3.3	II 0.9	I 0.8			II 0.5			III 1.0	V 10.0
ARNI COR	II 0.3	I 0.1	II 0.3			II 0.3	V 1.0			
ARNI SPP										V 1.0
ASTE BOR									III 0.5	
ASTE CIL	IV 1.7	V 3.6	IV 1.3	V 1.5	V 1.0	III 0.8			V 2.5	V 2.0
ASTE CON	IV 2.5	V 2.7	V 5.0	V 2.5	V 2.0	III 2.5	V 2.0			
ASTE ENG									III 0.5	
ASTR STR						II 0.3				
AULA PAL	I 0.5	II 0.4	I 0.8					III 1.0	V 25.0	V 1.0
BETU GLA									III 35.0	V 2.0
BRAC CAM	III 2.2	III 1.4	III 2.5	V 1.5		III 1.0				
BRAC STA	I 0.1		I 0.2							
CALA CAN	IV 4.1	V 10.0	IV 0.8	V 14.0		III 0.8	V 1.0		III 1.0	V 5.0
CALA STR	I 0.1		I 0.2							
CARE AQU									III 3.5	
CARE CAP		I 0.0							III 2.5	
CARE CUR									III 20.0	
CARE DIS									III 3.5	
CARE VAG									III 1.5	
CAST MIN	IV 1.5	II 0.4	II 0.3							V 2.0
CETR HAL							V 5.0			
CLAD COR	I 0.1	I 0.2		III 0.5				III 7.5		
CLAD GRA	I 0.1							III 2.5		
CLAD MIT	I 0.1	I 0.0	I 0.2					V 40.0	III 1.5	V 5.0
CLAD POL								III 2.5		
CLIM DEN									III 20.0	
CORN CAN	V 9.8	V 7.7	V 14.0	V 3.0		V 15.5	V 5.0			V 2.0
CORN STO	I 0.3	I 0.8	I 2.2		V 35.0	II 0.5				
DELP GLA				V 2.0						
DICR FRA							V 1.0			
DICR POL	I 0.2	I 0.1	II 0.3							
DICR UND	II 0.4	I 0.2					V 2.0	III 1.5		
DISP TRA	I 0.1		I 0.2							
DREP ADU									III 1.5	
DREP UNC			I 0.2		V 1.0					
ELYM INN	V 6.1	IV 5.7	I 0.3	III 1.5		III 1.0	V 7.0			
EPIL ANG	V 3.9	V 6.4	V 4.2	V 15.0	V 5.0	V 2.0	V 3.0			V 3.0
EQUI ARV		I 0.0		V 1.0					III 0.5	

SUMMARY VEGETATION TABLE

ECOSYSTEMATIC UNITS	MW A1	MW A3	MW A5	MW A7	MW PB1	MW SwA	MW Sw	MW Sb	MW WL	MW Lt
SPECIES	PRESENCE CLASS AND MEAN SPECIES SIGNIFICANCE									
EQUI SCI		I 0.0								
EQUI SYL		I 0.0				II 0.3				
ERIO VAG								III 0.5		
EURH PUL	I 1.0	II 0.5	I 0.2	III 2.5		III 1.0	V 5.0			
FRAG VIR	V 3.1	V 4.1	V 2.3	V 2.5		III 0.8	V 1.0		V 3.5	V 1.0
GALI BOR	V 1.5	V 1.8	IV 0.8	V 2.0		V 1.0	V 1.0		V 1.5	V 1.0
GALI TRF									III 0.5	
GALI TRI		I 0.2		III 1.0	V 1.0	III 0.5			III 1.0	
GENT AMA	I 0.1	I 0.0		III 0.5					III 0.5	V 1.0
GEOC LIV		I 0.0								V 1.0
GEUM TRI									III 1.5	
GOOD OBL							V 1.0			
GOOD REP		I 0.1	I 0.2			III 0.5				
HABE OBT						II 0.3				
HABE ORB	I 0.2	I 0.1	I 0.2			II 0.3				
HABE VIR	I 0.1	II 0.2	II 0.3			II 0.3			III 0.5	
HALE DEF		I 0.1							III 0.5	V 1.0
HEDY ALP									III 1.0	
HERA LAN		I 0.0		III 5.0						
HIER TRI	I 0.2	II 0.3								V 2.0
HIER UMB	II 0.3	II 0.3		III 0.5						
HYLO SPL	IV 4.1	IV 2.0	IV 2.2	III 1.5		V 25.8	V 40.0			
HYPO PHY	I 0.3	I 0.5		III 2.5		II 2.5	V 10.0			
JUNC BAL									III 30.0	
LARI LAR										V 20.0
LATH OCH	V 2.9	V 4.6	V 3.2	V 2.5		V 3.0	V 5.0			V 1.0
LEDU GRO	I 0.3	I 0.3	I 0.3					V 67.5		V 10.0
LILI PHI	I 0.1									
LINN BOR	V 10.5	V 7.5	V 5.2	III 1.5	V 2.0	V 8.0	V 2.0			V 2.0
LONI DIO	II 0.7	I 0.3		III 0.5						V 1.0
LONI INV	III 1.8	III 2.9	IV 2.2	III 5.0	V 5.0	III 6.3	V 2.0		III 3.5	V 2.0
LYCO ANN		I 0.1								
LYCO COM	I 0.5									
MAIA CAN	IV 0.9	II 0.9	V 1.2			III 0.5	V 2.0	III 0.5		V 1.0
MELA LIN	I 0.1									
MENT ARV									III 0.5	
MERT PAN	III 1.2	V 2.6	IV 1.3	V 15.0	V 1.0	IV 4.8	V 3.0		III 0.5	
MITE NUD	I 0.1	I 0.2			V 1.0	IV 2.3			III 0.5	
MNIU GLA						II 0.3				
MNIU SPP		I 0.0								
ORTH SEC	IV 0.7	III 0.6	IV 0.7		V 1.0	IV 1.0	V 1.0			V 1.0
OSMO CHI			I 0.2							
OSMO DEP		I 0.2		III 0.5	V 1.0	II 0.3	V 1.0			
OXYC MIC								V 3.0		

ECOSYSTEMATIC UNITS	MW A1	MW A3	MW A5	MW A7	MW PB1	MW SwA	MW Sw	MW Sb	MW WL	MW Lt
SPECIES	PRESENCE CLASS AND MEAN SPECIES SIGNIFICANCE									
OXYT DEF		I 0.0								
PARN FIM									III 0.5	
PEDI GRO									III 0.5	
PEDI LAB		I 0.0				II 0.3				
PELT APH	I 0.3	II 0.4	II 0.8	III 0.5						V 10.0
PELT CAN			I 0.2							
PELT MAL		I 0.0								
PETA PAL	IV 1.1	V 1.5	V 1.5	V 2.5	V 2.0	V 2.5	V 2.0			V 2.0
PHIL FON		I 0.0								
PICE GLA	II 0.3	II 0.8	I 0.8			V 46.3	V 20.0			V 30.0
PICE MAR								V 27.5		
PINU CON	I 0.3	I 0.7					V 30.0			V 1.0
PLAG CUS	I 0.1	I 0.2								
PLAG DRU		I 0.0	I 0.2			II 0.3				
PLAG ELL			I 0.2						III 1.0	
PLEU SCH	I 0.9	I 1.0	II 1.2			III 6.3	V 20.0	III 2.5		V 10.0
POA COM									III 2.5	
POA PAL		I 0.1								
POLY JUN	I 0.1									
POPU BAL	II 2.4	III 4.4	I 1.7	V 60.0	V 45.0	II 2.5				V 20.0
POPU TRE	V 47.0	V 45.6	V 59.2	V 27.5		IV 20.0	V 7.0			V 7.0
POTE PAL									III 0.5	
PTIL CRI	I 0.3	I 0.3	II 0.3			III 0.8	V 20.0			
PTIL PUL		I 0.8								
PYLA POL	I 1.0	I 1.0	I 0.2							
PYRO ASA	V 3.3	V 2.6	V 4.2	III 1.0	V 1.0	V 2.8	V 2.0			V 1.0
RHYT LOR	I 0.3	I 0.2				II 2.5				
RIBE LAC		I 0.0								
RIBE OXY		I 0.1	I 0.2	III 2.5	V 1.0	II 0.3				
ROSA ACI	V 21.4	V 35.5	V 7.7	V 25.0	V 5.0	IV 12.0	V 3.0		III 0.5	V 5.0
RUBU ARC									III 1.0	
RUBU CHA								V 5.0		
RUBU IDA		I 0.8		III 5.0		II 6.3				
RUBU PUB	III 1.9	V 4.7	V 3.8	V 4.0	V 1.0	V 12.8	V 3.0			
RUME OCC									III 0.5	
SALI BEB	IV 2.7	IV 5.5	II 5.5	V 5.0	V 10.0				V 5.5	V 5.0
SALI GLA	I 0.1									
SALI MYR									III 27.5	V 5.0
SENE PAU									III 0.5	
SHEP CAN	V 34.1	V 8.8	III 2.0			III 4.0	V 1.0			V 60.0
SMIL RAC	I 0.1	II 0.4	II 0.5							
SMIL STE		I 0.0								
SMIL TRI									III 1.0	
SOLI CAN		I 0.2		V 3.5					V 2.0	V 1.0
SPHA FUS								V 15.0		
SPIR BET	III 2.4	II 0.9	V 15.5				V 2.0			
STEL LON									III 1.5	
STRE AMF	I 0.1	I 0.0	I 0.2			II 0.3				

SUMMARY VEGETATION TABLE

RESOURCE INVENTORY

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ECOSYSTEMATIC UNITS	MW A1	MW A3	MW A5	MW A7	MW PB1	MW SwA	MW Sw	MW Sb	MW WL	MW Lt
SPECIES	PRESENCE CLASS AND MEAN SPECIES SIGNIFICANCE									
SYMP ALB	II 0.6	II 1.7	I 0.3		V 3.0	III 2.0				
TARA OFF		I 0.2								
THAL OCC		I 1.0	I 0.3	III 1.5		II 1.3				
THUI REC									III 1.5	
TIAR TRI						II 0.3				
TOME NIT									III 20.0	
TRIF PRA	I 0.1									
TRIS SPI	I 0.1									
USNE SOR	I 0.1					II 2.5	V 10.0			
VACC CAE	IV 8.5	III 6.1	II 0.7			II 1.3	V 5.0			V 35.0
VACC MYR	I 0.2	I 0.0								V 50.0
VACC VIT		I 0.1						V 6.5		
VALE DIO			I 0.7						III 2.5	
VIBU EDU	V 5.8	IV 12.2	V 8.7	III 20.0	V 20.0	IV 29.0	V 7.0			
VICI AME	IV 1.1	IV 1.8	II 0.3	V 2.0						
VIOL CAN		I 0.2								
VIOL ORB	I 0.1	I 0.0				III 0.5				
VIOL REN	I 0.2	II 0.4		III 0.5		III 0.5	V 1.0		III 2.5	

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VIOL ORB                  | I  0.1| I  0.0|       |III  0.5|       |III  0.5|          |III  2.5|    |
VIOL REN                  | I  0.2| II 0.4|       |        |       |III  0.5| V  1.0|  |        |    |
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VEGETATION DATA CODES ENCOUNTERED IN THE SUMMARY TABLE

CODE	LATIN NAME	FAMILY NAME	COMMON NAME
STRATA A			
LARILAR	Larix laricina (Du Roi) K. Koch	PINACEAE	Tamarack (EHM)
PICEGLA	Picea glauca (Moench) Voss	PINACEAE	White Spruce (EHM)
PICEMAR	Picea mariana (Mill.) BSP.	PINACEAE	Black Spruce (EHM)
PINUCON	Pinus contorta L.	PINACEAE	Lodgepole Pine (EHM)
POPUBAL	Populus balsamifera L.	SALICACEAE	Balsam Poplar (EHM)
POPUTRE	Populus tremuloides Michx.	SALICACEAE	Aspen (EHM)
STRATA B			
ALNUCRI	Alnus crispa (Ait.) Pursh	BETULACEAE	Green Alder (EHM)
AMELALN	Amelanchier alnifolia Nutt.	ROSACEAE	Saskatoon (EHM)
BETUGLA	Betula glandulosa Michx.	BETULACEAE	Dwarf Birch (EHM)
CORNSTO	Cornus stolonifera Michx.	CORNACEAE	Red Osier Dogwood (EHM)
LEDUGRO	Ledum groenlandicum Oeder	ERICACEAE	Common Labrador Tea (EHM)
LONIDIO	Lonicera dioica L.	CAPRIFOLIACEAE	Twining Honeysuckle (EHM)
LONIINV	Lonicera involucrata (Richards.) Banks	CAPRIFOLIACEAE	Bracted Honeysuckle (EHM)
RIBELAC	Ribes lacustre (Pers.) Poir.	GROSSULARIACEAE	Bristly Black Currant (EHM)
RIBEOXY	Ribes oxyacanthoides L.	GROSSULARIACEAE	Wild Gooseberry (EHM)
ROSAACI	Rosa acicularis Lindl.	ROSACEAE	Prickly Rose (EHM)
RUBUIDA	Rubus idaeus L.	ROSACEAE	Wild Red Raspberry (EHM)
SALIBEB	Salix bebbiana Sarg.	SALICACEAE	Beaked Willow (ACB)
SALIGLA	Salix glauca L.	SALICACEAE	Smooth Willow (ACB)
SALIMYR	Salix myrtillifolia Anderss.	SALICACEAE	Myrtle-leaved Willow (ACB)
SHEPCAN	Shepherdia canadensis (L.) Nutt.	ELAEAGNACEAE	Canadian Buffalo-berry (EHM)
SYMPALB	Symphoricarpos albus (L.) Blake	CAPRIFOLIACEAE	Snowberry (EHM)
VACCMYR	Vaccininum myrtilloides Michx.	ERICACEAE	Blueberry (EHM)
VIBUEDU	Viburnum edule (Michx.) Raf.	CAPRIFOLIACEAE	Low-bush Cranberry (EHM)
STRATA C			
ACHIMIL	Achillea millefolium L.	COMPOSITAE	Common Yarrow (EHM)
ACTARUB	Actaea rubra (Ait.) Willd.	RANUNCULACEAE	Red and White Baneberry (EHM)
ADENBIC	Adenocaulon bicolor Hook.	COMPOSITAE	Pathfinder (EHM)
ANTEPAR	Antennaria parvifolia Nutt.	COMPOSITAE	Small-leaved Everlasting (ACB)
ARALNUD	Aralia nudicaulis L.	ARALIACEAE	Wild Sarsaparilla (EHM)
ARCTUVA	Arctostaphylos uva-ursi (L.) Spreng.	ERICACEAE	Common Bearberry (EHM)
ARNICOR	Arnica cordifolia Hook.	COMPOSITAE	Heart-leaved Arnica (ACB)
ASTEBOR	Aster borealis (T. & G.) Prov.	COMPOSITAE	Aster
ASTECIL	Aster ciliolatus Lindl.	COMPOSITAE	Lindley's Aster (EHM)
ASTECON	Aster conspicuus Lindl.	COMPOSITAE	Showy Aster (EHM)
ASTEENG	Aster engelmannii (D.C. Eat.) A. Gray	COMPOSITAE	Elegant Aster (ACB)

VEGETATION DATA CODES ENCOUNTERED IN THE SUMMARY TABLE

CODE	LATIN NAME	FAMILY NAME	COMMON NAME
STRATA C			
ASTRSTR	Astragalus striatus Nutt.	LEGUMINOSAE	Ascending Purple Milk Vetch (ACB)
CASTMIN	Castilleja miniata Dougl. ex Hook.	SCROPHULARIACEAE	Common Red Paint-brush (EHM)
CORNCAN	Cornus canadensis L.	CORNACEAE	Bunchberry (EHM)
DELPGLA	Delphinium glaucum S. Wats.	RANUNCULACEAE	Tall Larkspur (EHM)
DISPTRA	Disporum trachycarpum (S. Wats.) B. & H.	LILIACEAE	Fairybells (ACB)
EPILANG	Epilobium angustifolium L.	ONAGRACEAE	Fireweed (EHM)
EQUIARV	Equisetum arvense L.	EQUISETACEAE	Common Horsetail (EHM)
EQUISCI	Equisetum scirpoides Michx.	EQUISETACEAE	Dwarf Scouring Rush (ACB)
EQUISYL	Equisetum sylvaticum L.	EQUISETACEAE	Woodland Horsetail (EHM)
FRAGVIR	Fragaria virginiana Duchesne	ROSACEAE	Wild Strawberry (EHM)
GALIBOR	Galium boreale L.	RUBIACEAE	Northern Bedstraw (EHM)
GALITRF	Galium trifidum L.	RUBIACEAE	Small Bedstraw (EHM)
GALITRI	Galium triflorum Michx.	RUBIACEAE	Sweet-scented Bedstraw (EHM)
GENTAMA	Gentianella amarella (L.) Borner	GENTIANACEAE	Felwort (EHM)
GEOCLIV	Geocaulon lividum (Richards.) Fern.	SANTALACEAE	Northern Comandra (ACB)
GEUMTRI	Geum triflorum Pursh	ROSACEAE	Old Man's Whiskers (EHM)
GOODOBL	Goodyera oblongifolia Raf.	ORCHIDACEAE	Rattlesnake Plantain (ACB)
GOODREP	Goodyera repens (L.) R.Br.	ORCHIDACEAE	Lesser Rattlesnake Plantain (ACB)
HABEOBT	Habenaria obtusata (Pursh) Richards.	ORCHIDACEAE	Blunt-leaved Orchid (EHM)
HABEORB	Habenaria orbiculata (Pursh) Torr.	ORCHIDACEAE	Round-leaved Orchid (EHM)
HABEVIR	Habenaria viridis (L.) R.Br.	ORCHIDACEAE	Bracted Orchid (EHM)
HALEDEF	Halenia deflexa (Sm.) Griseb.	GENTIANACEAE	Spurred Gentian (EHM)
HEDYALP	Hedysarum alpinum L.	LEGUMINOSAE	Alpine Hedysarum (ACB)
HERALAN	Heracleum lanatum Michx.	UMBELLIFERAE	Cow Parsnip (EHM)
HIERTRI	Hieracium triste Willd.	COMPOSITAE	Alpine Hawkweed (ACB)
HIERUMB	Hieracium umbellatum L.	COMPOSITAE	Narrow-leaved Hawkweed (EHM)
LATHOCH	Lathyrus ochroleucus Hook.	LEGUMINOSAE	Cream-colored Vetchling (ACB)
LILIPHI	Lilium phildelphicum L.	LILIACEAE	Western Wood Lily (EHM)
LINNBOR	Linnaea borealis L.	CAPRIFOLIACEAE	Twin-flower (EHM)
LYCOANN	Lycopodium annotinium L.	LYCOPODIACEAE	Stiff Club-moss (EHM)
LYCOCOM	Lycopodium complanatum L.	LYCOPODIACEAE	Ground Cedar (EHM)
MAIACAN	Maianthemum canadense Desf.	LILACEAE	Wild Lily-of-the-valley (EHM)
MELALIN	Melampyrum lineare Desr.	SCROPHULARIACEAE	Cow-wheat (EHM)
MENTARV	Mentha arvensis L.	LABIATAE	Wild Mint (EHM)
MERTPAN	Mertensia paniculata (Ait.) G. Don.	BORAGINACEAE	Tall Mertensia (EHM)
MITENUD	Mitella nuda L.	SAXIFRAGACEAE	Bishop's Cap (EHM)
ORTHSEC	Orthilia secunda (L.) House	PYROLACEAE	One-sided Wintergreen (EHM)
OSMOCHI	Osmorhiza chilensis Hook. & Arn.	UMBELLIFERAE	Blunt-fruited Sweet Cicely (ACB)
OSMODEP	Osmorhiza depauperata Philippi	UMBELLIFERAE	Sweet Cicely
OXYCMIC	Oxycoccus microcarpus Turcz.	ERICACEAE	Small Bog Cranberry (EHM)
OXYTDEF	Oxytropis deflexa (Pall.) DC.	LEGUMINOSAE	Reflexed Loco-weed (EHM)
PARNFIM	Parnassia fimbriata Konig	PARNASSIACEAE	Fringed Grass-of-parnassus (ACB)
PEDIGRO	Pedicularis groenlandica Retz.	SCROPHULARIACEAE	Elephant Head (EHM)
PEDILAB	Pedicularis labradorica Wirsing	SCROPHULARIACEAE	Labrador Lousewort (ACB)

VEGETATION DATA CODES ENCOUNTERED IN THE SUMMARY TABLE

CODE	LATIN NAME	FAMILY NAME	COMMON NAME
STRATA C			
PETAPAL	Petasites palmatus (Ait.) A. Gray	COMPOSITAE	Palmate-leaved Coltsfoot (EHM)
POTEPAL	Potentilla palustris (L.) Scop.	ROSACEAE	Marsh Cinquefoil (EHM)
PYROASA	Pyrola asarifolia Michx.	PYROLACEAE	Common Pink Wintergreen (EHM)
RUBUARC	Rubus arcticus L.	ROSACEAE	Dwarf Raspberry (EHM)
RUBUCHA	Rubus chamaemorus L.	ROSACEAE	Cloudberry (EHM)
RUBUPUB	Rubus pubescens Raf.	ROSACEAE	Dewberry (EHM)
RUMEOCC	Rumex occidentalis S. Wats.	POLYGONACEAE	Western Dock (EHM)
SENEPAU	Senecio pauciflorus Pursh	COMPOSITAE	Few-flowered Ragwort (ACB)
SMILRAC	Smilacina racemosa (L.) Desf.	LILIACEAE	False Solomon's-seal (EHM)
SMILSTE	Smilacina stellata (L.) Desf.	LILIACEAE	Star-flowered Solomon's-seal (EHM)
SMILTRI	Smilacina trifolia (L.) Desf.	LILIACEAE	Three-leaved Solomon's-seal (EHM)
SOLICAN	Solidago canadensis L.	COMPOSITAE	Canada Goldenrod (EHM)
SPIRBET	Spirea betulifolia Pallas	ROSACEAE	White Meadowsweet (EHM)
STELLON	Stellaria longifolia Muhl.	CARYOPHYLLACEAE	Long-leaved Chickweed (EHM)
STREAMP	Streptopus amplexifolius (L.) DC.	LILIACEAE	Twisted-stalk (EHM)
TARAOFF	Taraxacum officinale Weber	COMPOSITAE	Common Dandelion (EHM)
THALOCC	Thalictrum occidentale A. Gray	RANUNCULACEAE	Western Meadow Rue (EHM)
TIARTRI	Tiarella trifoliata L.	SAXIFRAGACEAE	Laceflower (ACB)
TRIFPRA	Trifolium pratense L.	LEGUMINOSAE	Red Clover (EHM)
VACCCAE	Vaccininum caespitosum Michx.	ERICACEAE	Dwarf Bilberry (EHM)
VACCVIT	Vaccininum vitis-idaea L.	ERICACEAE	Bog Cranberry (EHM)
VALEDIO	Valeriana dioica L.	ADOXACEAE	Northern Valerian (ACB)
VICIAME	Vicia americana Muhl.	LEGUMINOSAE	Wild Vetch (EHM)
VIOLCAN	Viola canadensis L.	VIOLACEAE	Western Canada Violet (EHM)
VIOLORB	Viola orbiculata Geyer ex Hook.	VIOLACEAE	Evergreen Violet (EHM)
VIOLREN	Viola renifolia A. Gray	VIOLACEAE	Kidney-leaved Violet (EHM)
STRATA D			
AULAPAL	Aulacomnium palustre (Hedw.)Schwaegr.	AULACOMNIACEAE	Tufted Moss
BRACCAM	Brachythecium campestre (C. Mull.)B.S.G.	BRACHYTHECIACEAE	Brachythecium Moss
BRACSTA	Brachythecium starkei (Bird.) B.S.G.	BRACHYTHECIACEAE	Brachythecium Moss
CLIMDEN	Climacium dendroides (Hedw.)Web. and Mohr	CLIMACIACEAE	
DICRFRA	Dicranum fragilifolium Lindb.	DICRANACEAE	Cushion Moss
DICRPOL	Dicranum polysetum Sw.	DICRANACEAE	Cushion Moss
DICRUND	Dicranum undulatum Brid.	DICRANACEAE	Cushion Moss
DREPADU	Drepanocladus aduncus (Hedw.)Warnst.	AMBLYSTEGIACEAE	Brown Moss
DREPUNC	Drepanocladus uncinatus (Hedw.)Warnst.	AMBLYSTEGIACEAE	Brown Moss
EURHPUL	Eurhynchium pulchellum (Hedw.)Jenn.	BRACHYTHECIACEAE	
HYLOSPL	Hylocomium splendens (Hedw.)B.S.G.	HYLOCOMIACEAE	Stair-step Moss
PHILFON	Philonotis fontana (Hedw.)Brid.	BARTRAMIACEAE	
PLAGCUS	Plagiomnium cuspidatum (Hedw.)Kop.	MNIACEAE	Mnium Moss
PLAGDRU	Plagiomnium drummondii (Bruch and Schimp.)Kop	MNIACEAE	Mnium Moss
PLAGELL	Plagiomnium ellipticum (Brid.)Kop.	MNIACEAE	Mnium Moss

VEGETATION DATA CODES ENCOUNTERED IN THE SUMMARY TABLE

CODE	LATIN NAME	FAMILY NAME	COMMON NAME
STRATA D			
PLEUSCH	Pleurozium schreberi (Brid.)Mitt.	ENTODONTACEAE	Schreber's Moss
POLYJUN	Polytrichum juniperinum Hedw.	POLYTRICHACEAE	Hair Cap Moss
PTILCRI	Ptilium crista-castrensis (Hedw.)De Not.	HYPNACEAE	Knight's Plume Moss
PTILPUL	Ptilidium pulcherrimun (G. Web.) Hampe	PTILIDIACEAE	Liverwort
PYLAPOL	Pylaisiella polyantha (Hedw.)Grout	HYPNACEAE	
RHYTLOR	Rhytidiadelphus loreus (Hedw.)Warnst.	RHYTIDIACEAE	Pipecleaner Moss
SPHAFUS	Sphagnum fuscum (Schimp.)Klinggr.	SPHAGNACEAE	Peat Moss
THUIREC	Thuidium recognitum (Hedw.)Lindb.	THUIDIACEAE	
TOMENIT	Tomenthypnum nitens (Hedw.)Loeske	BRACHYTHECIACEAE	Golden Moss
STRATA G			
AGROSCA	Agrostis scabra Willd.	GRAMINEAE	Hair Grass (EHM)
AGROTRA	Agropyron trachycaulum (Link) Malte	GRAMINEAE	Slender Wheat Grass (ACB)
CALACAN	Calamagrostis canadensis (Michx.) Beauv.	GRAMINEAE	Marsh Reed Grass (EHM)
CALASTR	Calamagrostis stricta (Timm) Koeler	GRAMINEAE	Reed Grass
CAREAQU	Carex aquatilis Wahlenb.	CYPERACEAE	Water Sedge (ACB)
CARECAP	Carex capillaris L.	CYPERACEAE	Hair-like Sedge (ACB)
CARECUR	Carex curta Good.	CYPERACEAE	Short Sedge (ACB)
CAREDIS	Carex disperma Dewey	CYPERACEAE	Two-seeded Sedge (ACB)
CAREVAG	Carex vaginata Tausch	CYPERACEAE	Sheathed Sedge (ACB)
ELYMINN	Elymus innovatus Beal	GRAMINEAE	Hairy Wild Rye (EHM)
ERIOVAG	Eriophorum vaginatum L.	CYPERACEAE	Sheathed Cotton Grass (ACB)
JUNCBAL	Juncus balticus Willd.	JUNCACEAE	Wire Rush (EHM)
POA COM	Poa compressa L.	GRAMINEAE	Canada Bluegrass (EHM)
POA PAL	Poa palustris L.	GRAMINEAE	Fowl Bluegrass (EHM)
TRISSPI	Trisetum spicatum (L.) Richt.	GRAMINEAE	Spike Trisetum (EHM)
STRATA L			
CETRHAL	Cetraria halei W.Culb. & C.Culb.	PARMELIACEAE	
CLADCOR	Cladonia cornuta (L.) Hoffm.	CLADONIACEAE	Reindeer Lichen
CLADGRA	Cladonia gracilis (L.) Willd.	CLADONIACEAE	Reindeer Lichen
CLADMIT	Cladina mitis (Sandst.) Hale & W.Culb.	CLADONIACEAE	Reindeer Lichen
CLADPOL	Cladonia polydactyla (Florke) Spreng., J	CLADONIACEAE	Reindeer Lichen
HYPOPHY	Hypogymnia physodes (L.) W. Wats	PARMELIACEAE	
PELTAPH	Peltigera aphthosa (L.) Willd.	PELTIGERACEAE	Studded Leather Lichen
PELTCAN	Peltigera canina (L.) Willd.	PELTIGERACEAE	Dog Lichen
PELTMAL	Peltigera malacea (Ach.) Funck	PELTIGERACEAE	
USNESOR	Usnea sorediifera (Arn.) Lynge	USNEACEAE	Old Man's Beard

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                                   MENSURATION SUMMARY
                                10:00:56      JUN 17, 1986
MERCHANTABILITY LIMITS:
STUMP HEIGHT (M):0.3
BREAST HEIGHT (M):1.3
TOP DIAMETER IB (CM):7.0
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VOLUME SAMPLING REGION :   6

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VOLUME SAMPLING REGION COEFFICIENTS FOR :  SW
TOTAL VOLUME COEFFICIENTS A B C         MERCHANTABLE VOLUME COEFFICIENTS
0.0000440   1.8913879   1.0183563       0.3636119  -0.1316804   0.7645595

VOLUME SAMPLING REGION COEFFICIENTS FOR :  SB
TOTAL VOLUME COEFFICIENTS A B C         MERCHANTABLE VOLUME COEFFICIENTS
0.0000535   1.7828674   1.0353346       0.1992271   0.2144730   0.5572933

VOLUME SAMPLING REGION COEFFICIENTS FOR :  SE
TOTAL VOLUME COEFFICIENTS A B C         MERCHANTABLE VOLUME COEFFICIENTS
0.0000440   1.8913879   1.0183563       0.3636119  -0.1316804   0.7645595

VOLUME SAMPLING REGION COEFFICIENTS FOR :  PL
TOTAL VOLUME COEFFICIENTS A B C         MERCHANTABLE VOLUME COEFFICIENTS
0.0000389   1.9143143   1.0716181      -0.0293341   1.0738201  -0.0640530

VOLUME SAMPLING REGION COEFFICIENTS FOR :  PJ
TOTAL VOLUME COEFFICIENTS A B C         MERCHANTABLE VOLUME COEFFICIENTS
0.0000389   1.9143143   1.0716181      -0.0293341   1.0738201  -0.0640530

VOLUME SAMPLING REGION COEFFICIENTS FOR :  FA
TOTAL VOLUME COEFFICIENTS A B C         MERCHANTABLE VOLUME COEFFICIENTS
0.0000323   2.0358601   0.9658680      -0.1972612   1.4338284  -0.2391706

VOLUME SAMPLING REGION COEFFICIENTS FOR :  FB
TOTAL VOLUME COEFFICIENTS A B C         MERCHANTABLE VOLUME COEFFICIENTS
0.0000323   2.0358601   0.9658680      -0.1972612   1.4338284  -0.2391706

VOLUME SAMPLING REGION COEFFICIENTS FOR :  LA
TOTAL VOLUME COEFFICIENTS A B C         MERCHANTABLE VOLUME COEFFICIENTS
0.0000535   1.7828674   1.0353346       0.1992271   0.2144730   0.5572933

VOLUME SAMPLING REGION COEFFICIENTS FOR :  LT
TOTAL VOLUME COEFFICIENTS A B C         MERCHANTABLE VOLUME COEFFICIENTS
0.0000535   1.7828674   1.0353346       0.1992271   0.2144730   0.5572933

VOLUME SAMPLING REGION COEFFICIENTS FOR :  FD
TOTAL VOLUME COEFFICIENTS A B C         MERCHANTABLE VOLUME COEFFICIENTS
0.0000247   1.9723911   1.0826426      -0.3329863   1.6803684  -0.3645858

VOLUME SAMPLING REGION COEFFICIENTS FOR :  AW
TOTAL VOLUME COEFFICIENTS A B C         MERCHANTABLE VOLUME COEFFICIENTS
0.0000386   1.9391947   1.0270700       0.1048042   0.6730628   0.2201650

VOLUME SAMPLING REGION COEFFICIENTS FOR :  PB
TOTAL VOLUME COEFFICIENTS A B C         MERCHANTABLE VOLUME COEFFICIENTS
0.0000386   1.9391947   1.0270700       0.1048042   0.6730628   0.2201650

VOLUME SAMPLING REGION COEFFICIENTS FOR :  BW
TOTAL VOLUME COEFFICIENTS A B C         MERCHANTABLE VOLUME COEFFICIENTS
0.0000219   1.8975706   1.2631187       0.1082491   0.8583470   0.0021549
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ASSOCIATION SUMMARY - MW A1 POPULUS TREMULOIDES/SHEPHERDIA CANADENSIS

	TOTAL GROSS VOLUME				MERCHANTABLE GROSS VOLUME				SITE INDEX M@50YR				SAMPLE TREES
	MEAN	MIN	MAX	S.D.	MEAN	MIN	MAX	S.D.	MEAN	MIN	MAX	S.D.	
VOLUME (M3/HA)													
TOTAL	269.75	75.56	483.42	118.53	230.32	15.77	461.78	129.04					
CONIFEROUS	2.42		25.07	7.03	2.26		23.71	6.63					
DECIDUOUS	267.32	75.56	483.42	117.11	228.05	15.77	461.78	127.52					
SPECIES VOLUME (M3/HA)													
SW	0.49		6.42	1.78	0.44		5.72	1.59					
SB													
SE													
PL	1.93		25.07	6.95	1.82		23.71	6.58					
PJ													
FA													
FB													
LA													
LT													
FD													
AW	250.68	75.56	418.15	102.66	214.41	15.77	398.90	114.02	16.22	13.13	20.29	2.07	28.
PB	16.65		70.10	25.24	13.65		62.87	22.43	14.98	14.83	15.13	0.21	
BW													
LIVE STEMS/HA													
CONIFEROUS	6.41		50.00	16.01									
DECIDUOUS	1617.95	866.70	2900.00	629.02									
TOTAL	1624.36	866.70	2900.00	626.67									
BASAL AREA (M2/HA)													
CONIFEROUS	0.33		3.30	0.93									
DECIDUOUS	34.77	14.30	50.60	11.49									
TOTAL	35.09	14.30	50.60	11.85									
M.A.I. (M3/HA/YR)	3.45	1.34	4.75	1.00	2.89	0.28	4.53	1.23					
STAND AGE (YEARS)	71.4	55.0	94.7	13.3									
CANOPY HEIGHT (M)	15.4	11.0	21.0	2.9									
HGT DOM+CODOM (M)	18.3	12.5	23.4	3.3									
MEAN DBH (CM)	16.5	10.2	23.4	4.4									

PLOT SUMMARY - ASSOCIATION : MW A1 POPULUS TREMULOIDES/SHEPHERDIA CANADENSIS

PLOT NUMBER	5GW006	5GW018	5GW036	5GW038	5GW042	5GW043	5GW045	5GW046	5GW055	5GW016	5GW033	5GW052	5GW053
TOTAL VOL/HA	334.71	373.90	114.54	249.05	75.56	367.99	268.36	167.20	325.44	141.81	346.38	483.42	258.34
CONIFER	25.07	6.42											
DECID	309.64	367.48	114.54	249.05	75.56	367.99	268.36	167.20	325.44	141.81	346.38	483.42	258.34
SPECIES VOL/HA	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
SW		6.42											
SB													
SE													
PL	25.07												
PJ													
FA													
FB													
LA													
LT													
FD													
AW	309.64	349.50	114.54	211.57	75.56	297.89	268.36	167.20	325.44	141.81	336.81	418.15	242.34
PB		17.98		37.48		70.10					9.57	65.27	16.00
BW													
SI M@50 YEARS	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
SW													
SB													
SE													
PL													
PJ													
FA													
FB													
LA													
LT													
FD													
AW	13.56	16.00	13.13	16.18	13.57	20.29	17.30	15.69	16.12	16.75	15.54	18.40	18.30
PB		14.83		15.13									
BW													
LIVE TREES TOT	1100.00	1650.00	1200.00	1150.00	1700.00	2100.00	1750.00	2600.00	866.70	1050.00	1900.00	1150.00	2900.00
CONIFER	33.30	50.00											
DECID	1066.70	1600.00	1200.00	1150.00	1700.00	2100.00	1750.00	2600.00	866.70	1050.00	1900.00	1150.00	2900.00
M.A.I. TOT VOL	3.78	3.89	2.08	3.14	1.34	4.11	4.23	2.99	4.05	2.34	4.21	4.75	3.91
STAND AGE	82.0	94.7	55.0	76.8	56.5	72.5	63.5	56.0	80.3	60.5	80.0	88.0	62.0
CANOPY HEIGHT	14.7	18.5	11.0	17.0	11.3	16.8	15.3	13.0	18.8	15.1	14.6	21.0	13.7
HTD DOM+CODOM	16.8	20.8	12.5	18.7	13.3	23.2	18.3	15.4	19.7	17.3	19.0	23.4	19.1
MEAN DIAMETER	22.7	18.1	14.1	17.2	10.2	15.6	15.2	11.1	23.4	14.9	16.7	23.0	12.2

PLOT SUMMARY - ASSOCIATION : MW A1 POPULUS TREMULOIDES/SHEPHERDIA CANADENSIS

PLOT NUMBER													
TOTAL VOL/HA													
CONIFER													
DECID													
SPECIES VOL/HA													
SW													
SB													
SE													
PL													
PJ													
FA													
FB													
LA													
LT													
FD													
AW													
PB													
BW													
SI M@50 YEARS													
SW													
SB													
SE													
PL													
PJ													
FA													
FB													
LA													
LT													
FD													
AW													
PB													
BW													
LIVE TREES TOT													
CONIFER													
DECID													
M.A.I. TOT VOL													
STAND AGE													
CANOPY HEIGHT													
HTD DOM+CODOM													
MEAN DIAMETER													

PLOT NUMBER 3GP212 DOES NOT HAVE CRUISE DATA

ASSOCIATION SUMMARY - MW A3 POPULUS TREMULOIDES/VIBURNUM EDULE-ROSA SPP.

	TOTAL GROSS VOLUME				MERCHANTABLE GROSS VOLUME				SITE INDEX M@50YR				SAMPLE TREES
	MEAN	MIN	MAX	S.D.	MEAN	MIN	MAX	S.D.	MEAN	MIN	MAX	S.D.	
VOLUME (M3/HA)													
TOTAL	338.97	74.97	572.20	124.17	287.30	22.37	536.67	136.45					
CONIFEROUS	6.39		137.73	26.77	6.13		132.13	25.66					
DECIDUOUS	332.57	74.97	572.20	117.66	281.18	22.37	536.67	129.27					
SPECIES VOLUME (M3/HA)													
SW													
SB													
SE													
PL	6.39		137.73	26.77	6.13		132.13	25.66	21.49	18.73	24.25	3.90	3.
PJ													
FA													
FB													
LA													
LT													
FD													
AW	309.75	53.29	455.32	102.44	261.91	15.36	437.41	112.66	17.32	12.24	23.48	2.28	57.
PB	22.83		193.67	43.38	19.27		186.05	40.11	16.42	14.20	20.98	2.85	11.
BW													
LIVE STEMS/HA													
CONIFEROUS	5.17		100.00	20.46									
DECIDUOUS	2052.88	550.00	3800.00	906.90									
TOTAL	2058.05	600.00	3800.00	898.41									
BASAL AREA (M2/HA)													
CONIFEROUS	0.50		10.10	2.03									
DECIDUOUS	41.74	12.80	69.80	11.91									
TOTAL	42.24	12.80	69.80	12.01									
M.A.I. (M3/HA/YR)	4.90	1.61	7.39	1.39	4.07	0.64	6.82	1.58					
STAND AGE (YEARS)	67.6	36.0	97.5	14.9									
CANOPY HEIGHT (M)	15.9	10.8	22.0	2.7									
HGT DOM+CODOM (M)	18.7	11.3	25.7	3.5									
MEAN DBH (CM)	16.6	9.7	30.2	5.2									

PLOT SUMMARY - ASSOCIATION : MW A3 POPULUS TREMULOIDES/VIBURNUM EDULE-ROSA SPP.

PLOT NUMBER	5GW009	5GW019	5GW027	5GW028	5GW029	5GW030	5GW031	5GW032	5GW040	5GW041	5GW044	5GW048	5GW056
TOTAL VOL/HA	312.02	195.91	337.33	343.70	229.90	213.68	434.69	257.58	333.78	351.85	558.69	306.15	572.20
CONIFER													
DECID	312.02	195.91	337.33	343.70	229.90	213.68	434.69	257.58	333.78	351.85	558.69	306.15	572.20
SPECIES VOL/HA	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
SW													
SB													
SE													
PL													
PJ													
FA													
FB													
LA													
LT													
FD													
AW	312.02	195.91	274.56	315.44	227.95	213.68	428.25	257.58	333.78	351.85	433.74	306.15	378.53
PB			62.77	28.26	1.95		6.44				124.95		193.67
BW													
SI M@50 YEARS	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
SW													
SB													
SE													
PL													
PJ													
FA													
FB													
LA													
LT													
FD													
AW	15.69	16.87	17.51	13.56	17.55	19.17	20.24	14.67	20.09	16.31	16.84	15.81	18.81
PB				14.20							14.25		18.74
BW													
LIVE TREES TOT	3500.00	1850.00	2300.00	1850.00	1450.00	3800.00	2900.00	2700.00	2200.00	3700.00	2400.00	2500.00	1600.00
CONIFER													
DECID	3500.00	1850.00	2300.00	1850.00	1450.00	3800.00	2900.00	2700.00	2200.00	3700.00	2400.00	2500.00	1600.00
M.A.I. TOT VOL	5.43	3.47	4.32	3.79	6.33	4.55	5.46	4.27	5.75	5.14	7.39	5.10	6.95
STAND AGE	57.5	56.5	63.5	88.5	36.0	47.0	78.5	60.3	58.0	68.5	74.0	60.0	83.3
CANOPY HEIGHT	14.9	13.7	15.5	16.0	13.1	13.2	16.7	13.2	16.2	13.5	16.1	13.2	18.2
HTD DOM+CODOM	15.7	16.6	18.5	18.0	12.0	16.5	24.0	15.2	20.0	18.1	18.2	16.3	23.1
MEAN DIAMETER	12.7	13.4	14.8	17.2	13.6	10.0	14.1	13.2	14.6	12.4	18.4	13.8	20.9

PLOT SUMMARY - ASSOCIATION : MW A3 POPULUS TREMULOIDES/VIBURNUM EDULE-ROSA SPP.

PLOT NUMBER	5GW059	5GW024	5GW050	5GW011	5GW012	5GW017	5GW021	5GW034	5GW035	5GW054	5GW001	5GW008	5GW022
TOTAL VOL/HA	364.92	452.13	259.15	326.32	398.17	341.40	514.96	74.97	305.96	339.75	503.02	448.06	470.46
CONIFER							137.73				47.70		
DECID	364.92	452.13	259.15	326.32	398.17	341.40	377.22	74.97	305.96	339.75	455.32	448.06	470.46
SPECIES VOL/HA	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
SW													
SB													
SE													
PL							137.73				47.70		
PJ													
FA													
FB													
LA													
LT													
FD													
AW	356.29	452.13	259.15	326.32	346.25	341.40	348.90	53.29	254.13	339.75	455.32	448.06	421.30
PB	8.62				51.92		28.32	21.68	51.82				
BW													49.17
SI M@50 YEARS	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
SW													
SB													
SE													
PL							21.25				18.73		
PJ													
FA													
FB													
LA													
LT													
FD													
AW	20.58	15.92	14.39	17.27	18.78	12.24	19.10	17.20	23.48	16.56	17.67	18.31	18.23
PB								14.28	20.98				
BW													
LIVE TREES TOT	766.70	2100.00	3300.00	1400.00	2100.00	1400.00	700.00	1800.00	2400.00	2100.00	600.00	866.70	1350.00
CONIFER							100.00				50.00		
DECID	766.70	2100.00	3300.00	1400.00	2100.00	1400.00	600.00	1800.00	2400.00	2100.00	550.00	866.70	1350.00
M.A.I. TOT VOL	4.12	5.80	4.05	4.53	5.63	3.50	7.02	2.18	6.09	4.38	6.49	6.31	4.71
STAND AGE	86.5	78.0	64.0	72.0	61.5	97.5	76.8	41.7	49.8	77.5	80.0	71.0	89.5
CANOPY HEIGHT	22.0	17.9	13.2	16.0	17.5	16.1	20.7	10.8	16.5	16.2	19.6	19.8	20.2
HTD DOM+CODOM	25.7	19.1	15.5	19.8	19.5	17.4	25.1	11.3	20.5	19.8	22.0	20.8	23.3
MEAN DIAMETER	23.3	17.6	12.1	18.8	16.6	20.5	26.8	9.7	13.8	15.7	30.2	27.0	20.5

PLOT SUMMARY - ASSOCIATION : MW A3 POPULUS TREMULOIDES/VIBURNUM EDULE-ROSA SPP.

PLOT NUMBER	5GW025	5GW049	5GW003										
TOTAL VOL/HA	231.31	268.40	83.66										
CONIFER													
DECID	231.31	268.40	83.66										
SPECIES VOL/HA	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
SW													
SB													
SE													
PL													
PJ													
FA													
FB													
LA													
LT													
FD													
AW	225.81	268.40	56.77										
PB	5.50		26.89										
BW													
SI M@50 YEARS	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
SW													
SB													
SE													
PL													
PJ													
FA													
FB													
LA													
LT													
FD													
AW	17.02	15.70	16.85										
PB			16.06										
BW													
LIVE TREES TOT	2500.00	2800.00	750.00										
CONIFER													
DECID	2500.00	2800.00	750.00										
M.A.I. TOT VOL	3.70	3.89	1.61										
STAND AGE	61.0	69.0	52.2										
CANOPY HEIGHT	14.3	14.1	13.4										
HTD DOM+CODOM	17.6	17.5	15.0										
MEAN DIAMETER	11.9	12.9	13.7										

ASSOCIATION SUMMARY - MW A5 POPULUS TREMULOIDES/ALNUS CRISPA

	TOTAL GROSS VOLUME				MERCHANTABLE GROSS VOLUME				SITE INDEX M@50YR				SAMPLE TREES
	MEAN	MIN	MAX	S.D.	MEAN	MIN	MAX	S.D.	MEAN	MIN	MAX	S.D.	
VOLUME (M3/HA)													
TOTAL	366.75	213.79	678.47	179.61	323.62	165.65	605.56	165.73					
CONIFEROUS	0.26		1.32	0.59									
DECIDUOUS	366.49	213.79	678.47	179.71	323.62	165.65	605.56	165.73					
SPECIES VOLUME (M3/HA)													
SW	0.26		1.32	0.59									
SB													
SE													
PL													
PJ													
FA													
FB													
LA													
LT													
FD													
AW	366.49	213.79	678.47	179.71	323.62	165.65	605.56	165.73	17.29	15.45	21.03	2.24	11.
PB													
BW													
LIVE STEMS/HA													
CONIFEROUS	10.00		50.00	22.36									
DECIDUOUS	1730.00	1150.00	2500.00	625.10									
TOTAL	1740.00	1150.00	2500.00	619.88									
BASAL AREA (M2/HA)													
CONIFEROUS	0.06		0.30	0.13									
DECIDUOUS	43.42	33.90	75.70	18.13									
TOTAL	43.48	33.90	75.70	18.09									
M.A.I. (M3/HA/YR)	4.99	2.97	8.64	2.19	4.37	2.66	7.71	1.98					
STAND AGE (YEARS)	75.4	47.5	105.0	22.4									
CANOPY HEIGHT (M)	17.3	13.5	19.5	2.4									
HGT DOM+CODOM (M)	19.8	14.8	22.3	3.0									
MEAN DBH (CM)	17.2	13.6	19.0	2.3									

PLOT SUMMARY - ASSOCIATION : MW A5 POPULUS TREMULOIDES/ALNUS CRISPA

PLOT NUMBER	5GW002	5GW004	5GW058	5GW039	5GW013								
TOTAL VOL/HA	678.47	213.79	320.52	309.34	311.63								
CONIFER				1.32									
DECID	678.47	213.79	320.52	308.03	311.63								
SPECIES VOL/HA	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
SW				1.32									
SB													
SE													
PL													
PJ													
FA													
FB													
LA													
LT													
FD													
AW	678.47	213.79	320.52	308.03	311.63								
PB													
BW													
SI M@50 YEARS	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
SW													
SB													
SE													
PL													
PJ													
FA													
FB													
LA													
LT													
FD													
AW	17.25	17.06	15.45	21.03	15.65								
PB													
BW													
LIVE TREES TOT	2500.00	2300.00	1250.00	1500.00	1150.00								
CONIFER				50.00									
DECID	2500.00	2300.00	1250.00	1450.00	1150.00								
M.A.I. TOT VOL	8.64	4.50	3.73	5.13	2.97								
STAND AGE	78.5	47.5	86.0	60.0	105.0								
CANOPY HEIGHT	19.5	13.5	17.7	16.8	19.2								
HTD DOM+CODOM	20.8	14.8	19.6	21.6	22.3								
MEAN DIAMETER	18.8	13.6	19.0	16.2	18.6								

ASSOCIATION SUMMARY - MW A7 POPULUS TREMULOIDES/LONICERA INVOLUCRATA/RUBUS PUBESCENS

	TOTAL GROSS VOLUME				MERCHANTABLE GROSS VOLUME				SITE INDEX M@50YR				SAMPLE TREES
	MEAN	MIN	MAX	S.D.	MEAN	MIN	MAX	S.D.	MEAN	MIN	MAX	S.D.	
VOLUME (M3/HA)													
TOTAL	396.33	334.49	458.18	87.46	368.56	315.49	421.63	75.05					
CONIFEROUS													
DECIDUOUS	396.33	334.49	458.18	87.46	368.56	315.49	421.63	75.05					
SPECIES VOLUME (M3/HA)													
SW													
SB													
SE													
PL													
PJ													
FA													
FB													
LA													
LT													
FD													
AW	2.89		5.78	4.09									
PB	393.44	334.49	452.40	83.37	368.56	315.49	421.63	75.05	16.49	15.31	17.66	1.66	5.
BW													
LIVE STEMS/HA													
CONIFEROUS													
DECIDUOUS	1525.00	1050.00	2000.00	671.75									
TOTAL	1525.00	1050.00	2000.00	671.75									
BASAL AREA (M2/HA)													
CONIFEROUS													
DECIDUOUS	52.25	44.10	60.40	11.53									
TOTAL	52.25	44.10	60.40	11.53									
M.A.I. (M3/HA/YR)	6.05	4.56	7.54	2.11	5.66	4.30	7.03	1.93					
STAND AGE (YEARS)	66.6	60.0	73.3	9.4									
CANOPY HEIGHT (M)	16.4	16.4	16.5	0.1									
HGT DOM+CODOM (M)	17.9	17.8	18.0	0.1									
MEAN DBH (CM)	20.8	19.0	22.5	2.5									

PLOT SUMMARY - ASSOCIATION : MW A7 POPULUS TREMULOIDES/LONICERA INVOLUCRATA/RUBUS PUBESCENS

PLOT NUMBER	5GW005	5GW026											
TOTAL VOL/HA	458.18	334.49											
CONIFER													
DECID	458.18	334.49											
SPECIES VOL/HA	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
SW													
SB													
SE													
PL													
PJ													
FA													
FB													
LA													
LT													
FD													
AW	5.78												
PB	452.40	334.49											
BW													
SI M@50 YEARS	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
SW													
SB													
SE													
PL													
PJ													
FA													
FB													
LA													
LT													
FD													
AW													
PB	17.66	15.31											
BW													
LIVE TREES TOT	2000.00	1050.00											
CONIFER													
DECID	2000.00	1050.00											
M.A.I. TOT VOL	7.54	4.56											
STAND AGE	60.0	73.3											
CANOPY HEIGHT	16.5	16.4											
HTD DOM+CODOM	18.0	17.8											
MEAN DIAMETER	19.0	22.5											

ASSOCIATION SUMMARY - MW PB1 POPULUS BALSAMIFERA/CORNUS STOLONIFERA-ALNUS

	TOTAL GROSS VOLUME				MERCHANTABLE GROSS VOLUME				SITE INDEX M@50YR				SAMPLE TREES
	MEAN	MIN	MAX	S.D.	MEAN	MIN	MAX	S.D.	MEAN	MIN	MAX	S.D.	
VOLUME (M3/HA)													
TOTAL	421.40	421.40	421.40		407.39	407.39	407.39						
CONIFEROUS													
DECIDUOUS	421.40	421.40	421.40		407.39	407.39	407.39						
SPECIES VOLUME (M3/HA)													
SW													
SB													
SE													
PL													
PJ													
FA													
FB													
LA													
LT													
FD													
AW													
PB	421.40	421.40	421.40		407.39	407.39	407.39		18.79	18.79	18.79		2.
BW													
LIVE STEMS/HA													
CONIFEROUS													
DECIDUOUS	600.00	600.00	600.00										
TOTAL	600.00	600.00	600.00										
BASAL AREA (M2/HA)													
CONIFEROUS													
DECIDUOUS	39.40	39.40	39.40										
TOTAL	39.40	39.40	39.40										
M.A.I. (M3/HA/YR)	4.48	4.48	4.48		4.33	4.33	4.33						
STAND AGE (YEARS)	94.0	94.0	94.0										
CANOPY HEIGHT (M)	24.1	24.1	24.1										
HGT DOM+CODOM (M)	24.5	24.5	24.5										
MEAN DBH (CM)	28.5	28.5	28.5										

PLOT SUMMARY - ASSOCIATION : MW PB1 POPULUS BALSAMIFERA/CORNUS STOLONIFERA-ALNUS

PLOT NUMBER	5GW014												
TOTAL VOL/HA	421.40												
CONIFER													
DECID	421.40												
SPECIES VOL/HA													
SW													
SB													
SE													
PL													
PJ													
FA													
FB													
LA													
LT													
FD													
AW													
PB	421.40												
BW													
SI M@50 YEARS													
SW													
SB													
SE													
PL													
PJ													
FA													
FB													
LA													
LT													
FD													
AW													
PB	18.79												
BW													
LIVE TREES TOT	600.00												
CONIFER													
DECID	600.00												
M.A.I. TOT VOL	4.48												
STAND AGE	94.0												
CANOPY HEIGHT	24.1												
HTD DOM+CODOM	24.5												
MEAN DIAMETER	28.5												

ASSOCIATION SUMMARY - MW SwA PICEA GLAUCA-POPULUS TREMULOIDES/VIBURNUM EDULE-ROSA SPP

	TOTAL GROSS VOLUME				MERCHANTABLE GROSS VOLUME				SITE INDEX M@50YR				SAMPLE TREES
	MEAN	MIN	MAX	S.D.	MEAN	MIN	MAX	S.D.	MEAN	MIN	MAX	S.D.	
VOLUME (M3/HA)													
TOTAL	457.77	266.30	623.60	179.35	431.89	239.11	596.77	179.60					
CONIFEROUS	247.90	126.29	436.92	140.90	233.91	119.14	418.56	135.42					
DECIDUOUS	209.87	71.71	467.59	175.93	197.99	68.82	449.32	171.16					
SPECIES VOLUME (M3/HA)													
SW	247.90	126.29	436.92	140.90	233.91	119.14	418.56	135.42	16.26	13.02	18.93	2.55	9.
SB													
SE													
PL													
PJ													
FA													
FB													
LA													
LT													
FD													
AW	127.81	71.71	201.11	56.37	118.73	68.82	191.73	52.96	14.77	14.28	15.53	0.67	4.
PB	82.06		266.48	126.35	79.26		257.59	122.15					
BW													
LIVE STEMS/HA													
CONIFEROUS	554.17	266.70	950.00	329.24									
DECIDUOUS	591.67	150.00	966.70	427.86									
TOTAL	1145.82	1000.00	1250.00	118.15									
BASAL AREA (M2/HA)													
CONIFEROUS	25.75	13.40	40.50	13.20									
DECIDUOUS	23.60	8.20	49.80	18.09									
TOTAL	49.32	31.40	65.70	15.76									
M.A.I. (M3/HA/YR)	3.01	1.38	4.11	1.17	2.81	1.30	3.94	1.12					
STAND AGE (YEARS)	106.7	88.0	128.3	17.7									
CANOPY HEIGHT (M)	19.3	17.4	21.5	1.9									
HGT DOM+CODOM (M)	23.9	20.2	27.8	3.5									
MEAN DBH (CM)	22.2	17.0	26.0	4.1									

PLOT SUMMARY - ASSOCIATION : MW SwA PICEA GLAUCA-POPULUS TREMULOIDES/VIBURNUM EDULE-ROSA SPP

PLOT NUMBER	5GW007	5GW015	5GW020	5GW023									
TOTAL VOL/HA	344.10	266.30	597.10	623.60									
CONIFER	272.39	126.29	436.92	156.01									
DECID	71.71	140.01	160.17	467.59									
SPECIES VOL/HA													
SW	272.39	126.29	436.92	156.01									
SB													
SE													
PL													
PJ													
FA													
FB													
LA													
LT													
FD													
AW	71.71	140.01	98.40	201.11									
PB			61.77	266.48									
BW													
SI M@50 YEARS													
SW	13.02	18.93	17.49	15.60									
SB													
SE													
PL													
PJ													
FA													
FB													
LA													
LT													
FD													
AW	15.53	14.28	14.50										
PB													
BW													
LIVE TREES TOT	1100.00	1233.30	1000.00	1250.00									
CONIFER	950.00	266.70	700.00	300.00									
DECID	150.00	966.70	300.00	950.00									
M.A.I. TOT VOL	3.53	3.02	4.11	1.38									
STAND AGE	97.5	88.0	128.3	113.0									
CANOPY HEIGHT	18.2	17.4	21.5	20.3									
HTD DOM+CODOM	20.2	21.7	27.8	25.8									
MEAN DIAMETER	21.0	17.0	26.0	24.9									

ASSOCIATION SUMMARY - MW Sw PICEA GLAUCA/HYLOCOMIUM-PLEUROZIUM

	TOTAL GROSS VOLUME				MERCHANTABLE GROSS VOLUME				SITE INDEX M@50YR				SAMPLE TREES
	MEAN	MIN	MAX	S.D.	MEAN	MIN	MAX	S.D.	MEAN	MIN	MAX	S.D.	
VOLUME (M3/HA)													
TOTAL	518.08	518.08	518.08		479.55	479.55	479.55						
CONIFEROUS	480.49	480.49	480.49		443.28	443.28	443.28						
DECIDUOUS	37.60	37.60	37.60		36.27	36.27	36.27						
SPECIES VOLUME (M3/HA)													
SW	153.39	153.39	153.39		132.26	132.26	132.26		12.82	12.82	12.82		1.
SB													
SE													
PL	327.10	327.10	327.10		311.01	311.01	311.01		15.47	15.47	15.47		2.
PJ													
FA													
FB													
LA													
LT													
FD													
AW	37.60	37.60	37.60		36.27	36.27	36.27						
PB													
BW													
LIVE STEMS/HA													
CONIFEROUS	1250.00	1250.00	1250.00										
DECIDUOUS	50.00	50.00	50.00										
TOTAL	1300.00	1300.00	1300.00										
BASAL AREA (M2/HA)													
CONIFEROUS	53.90	53.90	53.90										
DECIDUOUS	4.00	4.00	4.00										
TOTAL	57.90	57.90	57.90										
M.A.I. (M3/HA/YR)	4.68	4.68	4.68		4.31	4.31	4.31						
STAND AGE (YEARS)	102.7	102.7	102.7										
CANOPY HEIGHT (M)	16.2	16.2	16.2										
HGT DOM+CODOM (M)	20.9	20.9	20.9										
MEAN DBH (CM)	21.2	21.2	21.2										

PLOT SUMMARY - ASSOCIATION : MW Sw PICEA GLAUCA/HYLOCOMIUM-PLEUROZIUM

PLOT NUMBER	5GW057												
TOTAL VOL/HA	518.08												
CONIFER	480.49												
DECID	37.60												
SPECIES VOL/HA	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
SW	153.39												
SB													
SE													
PL	327.10												
PJ													
FA													
FB													
LA													
LT													
FD													
AW	37.60												
PB													
BW													
SI M=50 YEARS	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
SW	12.82												
SB													
SE													
PL	15.47												
PJ													
FA													
FB													
LA													
LT													
FD													
AW													
PB													
BW													
LIVE TREES TOT	1300.00												
CONIFER	1250.00												
DECID	50.00												
M.A.I. TOT VOL	4.68												
STAND AGE	102.7												
CANOPY HEIGHT	16.2												
HTD DOM+CODOM	20.9												
MEAN DIAMETER	21.2												

ASSOCIATION SUMMARY - MW Sb PICEA MARIANA/LEDUM GROENLANDICUM/SPHAGNUM SPP

	TOTAL GROSS VOLUME				MERCHANTABLE GROSS VOLUME				SITE INDEX M@50YR				SAMPLE TREES
	MEAN	MIN	MAX	S.D.	MEAN	MIN	MAX	S.D.	MEAN	MIN	MAX	S.D.	
VOLUME (M3/HA)													
TOTAL	7.18	1.59	12.77	7.91									
CONIFEROUS	7.18	1.59	12.77	7.91									
DECIDUOUS													
SPECIES VOLUME (M3/HA)													
SW													
SB	7.18	1.59	12.77	7.91					6.34	5.69	6.99	0.92	3.
SE													
PL													
PJ													
FA													
FB													
LA													
LT													
FD													
AW													
PB													
BW													
LIVE STEMS/HA													
CONIFEROUS	454.15	75.00	833.30	536.20									
DECIDUOUS													
TOTAL	454.15	75.00	833.30	536.20									
BASAL AREA (M2/HA)													
CONIFEROUS	2.70	0.60	4.80	2.97									
DECIDUOUS													
TOTAL	2.70	0.60	4.80	2.97									
M.A.I. (M3/HA/YR)	0.09	0.02	0.16	0.10									
STAND AGE (YEARS)	74.3	70.0	78.5	6.0									
CANOPY HEIGHT (M)	5.9	5.7	6.2	0.4									
HGT DOM+CODOM (M)	6.8	6.6	7.0	0.3									
MEAN DBH (CM)	9.2	8.5	9.9	1.0									

PLOT SUMMARY - ASSOCIATION : MW Sb PICEA MARIANA/LEDUM GROENLANDICUM/SPHAGNUM SPP

PLOT NUMBER	SGW010	SGW047											
TOTAL VOL/HA	12.77	1.59											
CONIFER	12.77	1.59											
DECID													
SPECIES VOL/HA	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
SW													
SB	12.77	1.59											
SE													
PL													
PJ													
FA													
FB													
LA													
LT													
FD													
AW													
PB													
BW													
SI M@50 YEARS	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
SW													
SB	5.69	6.99											
SE													
PL													
PJ													
FA													
FB													
LA													
LT													
FD													
AW													
PB													
BW													
LIVE TREES TOT	833.30	75.00											
CONIFER	833.30	75.00											
DECID													
M.A.I. TOT VOL	0.16	0.02											
STAND AGE	78.5	70.0											
CANOPY HEIGHT	5.7	6.2											
HTD DOM+CODOM	6.6	7.0											
MEAN DIAMETER	8.5	9.9											

ASSOCIATION SUMMARY - MW WL SALIX-CAREX SHRUBLAND

	TOTAL GROSS VOLUME				MERCHANTABLE GROSS VOLUME				SITE INDEX M@50YR				SAMPLE TREES
	MEAN	MIN	MAX	S.D.	MEAN	MIN	MAX	S.D.	MEAN	MIN	MAX	S.D.	
VOLUME (M3/HA)													
TOTAL													
CONIFEROUS													
DECIDUOUS													
SPECIES VOLUME (M3/HA)													
SW													
SB													
SE													
PL													
PJ													
FA													
FB													
LA													
LT													
FD													
AW													
PB													
BW													
LIVE STEMS/HA													
CONIFEROUS													
DECIDUOUS													
TOTAL													
BASAL AREA (M2/HA)													
CONIFEROUS													
DECIDUOUS													
TOTAL													
M.A.I. (M3/HA/YR)													
STAND AGE (YEARS)													
CANOPY HEIGHT (M)													
HGT DOM+CODOM (M)													
MEAN DBH (CM)													

PLOT SUMMARY - ASSOCIATION : MW WL SALIX-CAREX SHRUBLAND

PLOT NUMBER													
TOTAL VOL/HA													
CONIFER													
DECID													
SPECIES VOL/HA	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
SW													
SB													
SE													
PL													
PJ													
FA													
FB													
LA													
LT													
FD													
AW													
PB													
BW													
SI M@50 YEARS	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
SW													
SB													
SE													
PL													
PJ													
FA													
FB													
LA													
LT													
FD													
AW													
PB													
BW													
LIVE TREES TOT													
CONIFER													
DECID													
M.A.I. TOT VOL													
STAND AGE													
CANOPY HEIGHT													
HTD DOM+CODOM													
MEAN DIAMETER													

ASSOCIATION SUMMARY - MW Lt LARIX LARICINA

	TOTAL GROSS VOLUME				MERCHANTABLE GROSS VOLUME				SITE INDEX M@50YR				SAMPLE TREES
	MEAN	MIN	MAX	S.D.	MEAN	MIN	MAX	S.D.	MEAN	MIN	MAX	S.D.	
VOLUME (M3/HA)													
TOTAL	68.98	68.98	68.98		46.61	46.61	46.61						
CONIFEROUS	31.10	31.10	31.10		21.18	21.18	21.18						
DECIDUOUS	37.87	37.87	37.87		25.43	25.43	25.43						
SPECIES VOLUME (M3/HA)													
SW	17.03	17.03	17.03		10.82	10.82	10.82		19.90	19.90	19.90		2.
SB													
SE													
PL													
PJ													
FA													
FB													
LA													
LT	14.08	14.08	14.08		10.35	10.35	10.35		14.73	14.73	14.73		2.
FD													
AW	0.88	0.88	0.88										
PB	37.00	37.00	37.00		25.43	25.43	25.43		6.63	6.63	6.63		2.
BW													
LIVE STEMS/HA													
CONIFEROUS	500.00	500.00	500.00										
DECIDUOUS	750.00	750.00	750.00										
TOTAL	1250.00	1250.00	1250.00										
BASAL AREA (M2/HA)													
CONIFEROUS	7.20	7.20	7.20										
DECIDUOUS	11.60	11.60	11.60										
TOTAL	18.80	18.80	18.80										
M.A.I. (M3/HA/YR)	1.30	1.30	1.30		0.88	0.88	0.88						
STAND AGE (YEARS)	50.5	50.5	50.5										
CANOPY HEIGHT (M)	8.1	8.1	8.1										
HGT DOM+CODOM (M)	9.5	9.5	9.5										
MEAN DBH (CM)	13.4	13.4	13.4										

PLOT SUMMARY - ASSOCIATION : MW Lt LARIX LARICINA

PLOT NUMBER	5GW060												
TOTAL VOL/HA	68.98												
CONIFER	31.10												
DECID	37.87												
SPECIES VOL/HA	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
SW	17.03												
SB													
SE													
PL													
PJ													
FA													
FB													
LA													
LT	14.08												
FD													
AW	0.88												
PB	37.00												
BW													
SI M@50 YEARS	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------
SW	19.90												
SB													
SE													
PL													
PJ													
FA													
FB													
LA													
LT	14.73												
FD													
AW													
PB	6.63												
BW													
LIVE TREES TOT	1250.00												
CONIFER	500.00												
DECID	750.00												
M.A.I. TOT VOL	1.30												
STAND AGE	50.5												
CANOPY HEIGHT	8.1												
HTD DOM+CODOM	9.5												
MEAN DIAMETER	13.4												

MAPS NOT

FILMED

CARTES

OMISES